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PRIMARY CARCINOMA OF THE GALL BLADDER.

By J. E. GRAHAM, M.R.C.P. LOND.,

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TORONTO.

PRIMARY carcinoma of the liver occurs in one-eighth of all cases. Primary carcinoma of the gall bladder and biliary passages is not so infrequent as one might suppose. Musser, in an exhaustive paper read at the meeting of the American Association of Physicians in 1889, made a collection of 159 cases, and Norman Moore, in a recent Bradshaw lecture on the distribution and duration of visceral growths, gave the results of 129 cases of new growths in the internal organs of the body. There were, for instance, twenty-nine cases of cancer of the stomach, fifteen of the cesophagus, and ten cases in which the gall bladder and biliary passages were the seats of disease. This will give some idea of the frequency of primary malignant disease in this portion of the body.

The following case is of some interest, as the clinical history pointed to the nature of the disease, so that an approximate diagnosis was made during the life of the patient, and the development of the disease could be studied more readily than in most cases.

J. J., aged 45, shoemaker. Admitted to the Toronto General Hospital January 28, 1895. Date of examination, January 30. History taken by Mr. J. Sheehan and Mr. H. K. Merritt.

Patient was a native of Wales, and came to this country seven years ago. He suffered for years from bilious attacks, brought on by indulgence in certain kinds of food, especially pork. These attacks usually occurred about once a month, but sometimes an interval of six months would intervene.

The chief symptoms were nausea and vomiting of a deeply-stained material. The attacks were often so severe that it took three or four days to recover from them. They were not accompanied by pain. Three years ago he had an attack of what was diagnosed at that time as congestion of the liver, which lasted seven weeks.

The present illness began in August last, five and a half months ago.

Patient is a widower, his wife died eight years ago. He has one son, eighteen years of age, quite healthy.

Father, a healthy man, died at seventy years of age of pneumonia. Mother living, eighty-four years of age. He has three brothers and three sisters, all healthy. There is no history of cancer in his family.

Patient has been a hearty eater, taking four meals a day. He has indulged very moderately in intoxicants, taking one or two glasses of beer in a week. In this country he has scarcely taken any. He smoked for a number of years when he was a young man, but of late has chewed tobacco instead.

The patient's occupation, that of shoemaker, tended towards torpidity of the digestive organs, not only on account of the lack of exercise, but from direct pressure on the abdomen when stooping forward at work. The attack from which he suffered three years ago, diagnosed as congestion of the liver, was probably one of biliary colic, accompanied by cholangitis, and more or less perihepatitis. After about a week of dull, indefinite pain over the hepatic region, he was suddenly seized with a violent spasm, so severe that he fell on the floor. The pain remained locally all over the liver, and shooting down the back. Then came vomiting, followed by excessive perspiration. Shortly afterwards jaundice set in. He remained in bed seven weeks, when from the description he seems to have suffered more or less inflammatory action in and around the liver.

The present attack began in the middle of last August, when he noticed a slight pain and tenderness over the region of the liver, with nausea

and a desire to vomit. Thinking, from previous experience, that an emetic might be of service, he took one, and vomited freely. Instead of relief, however, he felt weaker and generally worse afterwards.

His appetite became poor, and he was much troubled with flatus.

He first took some patent medicine, and in the beginning of October went to the dispensary and called in a physician. His appetite became gradually worse, his weakness and emaciation increased. The passages from the bowels were yellow at first, but gradually lost the normal color, so that in seven weeks from the commencement they were quite clay-colored, and have since remained so.

An intense itching around the anus was experienced early in the disease, and has continued ever since. It is very much aggravated by movement of the bowels. There is no cutaneous irritation in any other part of the body.

His urine became high-colored at the beginning of his illness, but micturition did not trouble him until three weeks ago, when the urine became scanty and contained a heavy brownish sediment. It was then difficult to pass. This condition was partly removed by treatment, but has since returned.

During the last six or eight weeks he has noticed the gradual enlargement of the liver, but cannot say exactly when he noticed it first. He has also noticed the development of nodules on the surface. Slight jaundice occurred early in the illness, but has gradually faded away, until now only a slight tinge is seen in the conjunctiva and skin. His height is 5 feet $4\frac{1}{2}$ inches. Ordinary weight, 140 lbs.; present weight, 90 lbs.

Patient had a pained, wearied expression of countenance, but was always bright when spoken to.

Lips a good color. Tongue red, with a little white fur. Patient complains of dryness of the mouth at night. Appetite is at present fairly good.

He does not suffer from pain in the stomach except after eating, when he has also eructations of gas, with a sense of weight and distension. He does not vomit. Bowels constipated. The discharges are very gray and sticky, and, on examination, are found to contain a small amount of fat, as well as indol and bacteria. Bile pigment was not at any time present.

The fat was not found in excessive quantities, as is often the case in obstructive jaundice.

Inspection. Abdomen distended; lower part round, tense, and more or less bulging. Over both lobes of the liver prominence can be distinctly seen. The right and left hypochondriac regions are especially prominent. The pain and tenderness over the left side is so great that the breathing is made superficial.

Palpation. Nodules can be felt at various points over the liver. One very large one in the left hypochondrium below the margin of the ribs, internal to the nipple line, and another small one in the median line, midway between the ensiform cartilage and the umbilicus.

A very distinct, hard, and prominent nodule can be felt like a knuckle pressing under the skin, situated a little below the lower margin of the liver in about the upper border of the right iliac. This was noticed early in the disease before any of the others, and we were somewhat in doubt as to whether it arose from the liver, or was simply attached to it. This tumor, as will afterwards be seen, sprung from the gall bladder.

Liver considerably enlarged. The lower border begins on the left side at the top of the tenth rib, passes across the median line an inch above the umbilicus, and then obliquely downwards below the margin of the ribs, where it cannot be further distinguished on account of the tension of the walls of the abdomen. The spleen could not be felt. A marked friction fremitus was noticed over different portions of the liver, when deep respirations were made.

Percussion. The upper limit of liver dullness commences at the sternum, at the lower border of the fourth rib, follows it to the nipple line, then to sixth rib in mid-axillary and seventh in posterior axillary line, then horizontally across to the spine, touching the ninth rib. Lower border on left side is the same as found on palpation up to the median line, then it takes an oblique course downwards and backwards, passing about an inch above the crest of the ilium.

Auscultation. A distinct rough, grating friction sound could be heard over some of the nodules on deep inspiration. "Rectal examination revealed a tender point, quite small and cord-like, placed obliquely high up near the brim of the pelvis on the right side."

Circulatory system. Heart's sounds weak in all the areas; first sound at apex especially weak.

Pulse full, not easily compressible. Some arterio-sclerosis.

Nothing abnormal in the respiratory system.

Nervous system. Pain extreme over the liver at a spot where a nodule is rapidly growing. Pruritus ani exists, and is quite severe.

Urinary system. A heavy deposit of pink urates occupies two-fifths of the volume of urine when it remained some time in a precipitating glass. Above the sediment, the urine is of a heavy opaque yellow color. Odor very disagreeable; specific gravity, 1.028; reaction, acid; color, after heating and disappearance of sediment, is dark yellow.

Chlorides, sulphates, and phosphates normal.

Albumin, sugar, and bile absent.

Amorphous urates found on microscopical examination.

Blood examination : Corpuscles, 4,140,000. Hæmoglobin, not estimated.

The course of the disease can be briefly given. The patient, when he came in, was suffering from severe pain and more or less fever, as the result of the growth of a nodule, which could be plainly felt as a protrusion about the size of a small orange, to the left of the median line. Friction sounds could be distinctly felt in the same situation.

In about a week's time, the pain and tenderness to a great extent disappeared, and the patient's condition improved. He remained in this state for two or three weeks, when he again complained of pain along the lower margin of the liver, a little to the right of the median line, and in a few days another nodule developed, accompanied by the local and general symptoms as in the one already described. After this the patient became rapidly weaker and more emaciated.

A singular condition was noted on several occasions. Biliverdin was not found either in the fæces or urine, while, at the same time, the skin was but very slightly, if at all, jaundiced. The surface of the body presented rather the yellow tint of pernicious anæmia. From this we concluded that the bile-forming function was to a great extent suppressed, owing to the presence of the cancer. About three or four weeks before his death, we noticed the commencement of ascites. The fluid gradually and slowly increased, but did not exist in very large quantity, even at the time of his death. On palpation the feeling of fluctuation was found to extend over a limited portion of the abdomen, the part occupied by the enlarged liver.

Bile pigment was not found in the urine at any time during the illness. Towards the end the discoloration of the skin became more marked.

During the week before death he remained the greater part of the time in a sort of stupor, complaining of intense pain rather than weakness.

Owing to the great enlargement of the left lobe of the liver and the great abdominal tension, the diaphragm was pushed upwards, interfering with the breathing action, and producing much distress on this account.

Patient was first given salol as a hepatic stimulant and disinfective. Salicylate of soda was afterwards given. Then, thinking of the possibility of a sclero-gummatous condition being present, patient was put on a course of potas. iodid. The drug did not cause any lessening of the nodules, but patient expressed himself as feeling better after the administration of the medicine. He took the iodide about three weeks.

The liver increased in size rapidly during patient's stay in the hospital. This was shown rather by the pushing up of the diaphragm and by the increased tension of the abdominal walls than by the lowering of the lower margin of the organ. During the last few weeks a distinct depression of

umbilication could be distinguished on the situation of one of the large elevations.

POST-MORTEM EXAMINATION.

Body much emaciated. Dark discoloration of skin. On opening the abdomen, which was much distended, a considerable quantity of ascitic fluid, not very deeply stained, was found.

The liver weighed fourteen pounds. It filled the whole of the upper part of the abdominal cavity, and presented a rough, uneven surface, owing to the presence of large nodules. The cut surface presented large cancerous masses, with a liver substance separating them in places, while in other portions the cancerous masses were separated by fibrous structure. The nodule which during life was felt below the liver in the upper part of the right iliac region, and which was first noticed by patient, the post-mortem revealed to be a cancerous mass, which had originated in the gall bladder. The greater portion of the latter was destroyed, leaving only a small cavity near the cystic duct, which was occupied by two large calculi, each about the size of a small hazel nut. The portion of the cancer which sprung from the walls of the gall bladder seemed to be of a villous character. The common bile duct was permeable, but the calibre was much diminished. Some recent fibrous adhesion existed between the surface of the nodules and the parietal peritoneum. Stomach somewhat dilated. Pylorus healthy. No evidences of carcinoma were found in any other part of the body.

This case presented many points of interest.

(1) The presence of friction fremitus and friction sounds over the surface of the liver. These were very distinct, and I thought during life there must have been a large amount of perihepatitis. As stated in the post-mortem notes, the amount of perihepatitis was small, and confined almost altogether to the nodules. The friction sound must have been produced by the rubbing of the rough cancerous surface over the peritoneum, also roughed by localized inflammatory action. It is doubtful if in any other affection of the liver than cancer could such marked symptoms be found.

(2) The rapidity of growth of the secondary nodules in the liver. In my experience this is very common. I have known cases in which the disease ran its whole course in six or seven weeks.

(3) Although there were distinct signs of suppression of the bile-making function of the liver, tyrosin and leucin were not at any time found in the urine. This may, perhaps, have been due to the fact that the patient suffered most of the time from anorexia, and, as a result, he took a small amount of food, which consisted largely of milk.

The diagnosis of primary carcinoma of the liver or gall bladder was made during life for the following reasons: (1) There was no history of primary

cancerous disease in the pylorus cæcum, or sigmoid flexure or rectum. (2) There was a history of biliary colic, with inflammation of the biliary passages. (3) The absence of marked jaundice excluded the biliary passages.

We did not during life recognize the fact that the lower, smaller, and more prominent nodule, already described as existing in the upper margin of the right iliac fossa, was cancerous disease of the gall bladder, but we noted its early appearance. On post-mortem examination this tumor was found to be an outgrowth from the gall bladder, and this we therefore considered as the primary seat of the disease, and that the invasion of the liver was of secondary character.

The presence of the calculi explained the illness three years before. They were probably the exciting cause of the carcinoma.

Portions of the nodules in the liver and gall bladder are now being hardened for examination by the microscope. I am not, therefore, in a position to say what is the character of the carcinoma. In Musser's collection of one hundred cases of primary carcinoma of the gall bladder, in sixty-four the variety was clearly indicated. Twenty-three were encephaloid, nineteen scirrhus, six colloid, four villous, and twelve were cylindrical-celled epitheliomata. From the gross appearance, I would suppose this to be of the latter form.

The liver itself was enormously increased in size, 14 lbs. weight, in a man not weighing more than 80 lbs. In Musser's collection of cases, the liver was the seat of secondary deposits in fifty-four cases.

In a large proportion of cases the growth into the liver was by direct continuity. In this case it appears to have been by metastasis.

The bile ducts in this case were partially obstructed by continuity of the disease. In the fifty-four cases of metastatic growth, as given by Musser, the organs were affected in the following order of frequency: (1) Liver, (2) abdominal lymphatic, (3) peritoneum, (4) lungs, (5) stomach, (6) duodenum, (7) pancreas. In this case the growths were confined to the liver.

Causation. The age when the greatest number of cases occur is between 50 and 60. In ninety-eight cases, twenty-three were males and seventy-five females. The great preponderance in females may be due to sedentary habits and greater tendency to formation of calculi.

This patient, although a male, followed a very sedentary life, and was at the same time a hearty eater, which may have been one of the etiological factors.

Gallstones were present in sixty-nine out of the one hundred of Musser's cases. This probably does not represent all the cases of calculi, as in many they may have passed into the intestines during life. In no case has it been proved that true biliary calculi formed after the commencement

of cancerous disease. The large proportion of cases in which calculi existed previous to carcinoma would point strongly to their etiological importance. The glandular character of the lining membrane would explain the fact that malignant disease follows calculi in the gall bladder much more frequently than in the urinary passage.

A tumor was made out during life in 68 cases: In gall-bladder region, 27 times; attached to liver, 10; in umbilical region, 12; in iliac fossa, 4; in fluid, 2; in pylorus, 1.

In this case the primary tumor was found below the lower margin of the liver, but owing to the great development of the left lobe, or perhaps to previous adhesion, the growth was found lower down and more to the right than the usual situation of the gall bladder.

The suddenness and severity of the onset of pain in the attack which occurred three years before the commencement of the present one would lead to the conclusion that a partial rupture of the cystic duct might have occurred, and that this might have accounted for the subsequent peri-hepatitis. The bilious attacks from which the patient suffered were probably directly connected with the formation of calculi, and the presence afterwards of malignant disease.

CARCINOMA OF THE SCALP.*

By H. J. HAMILTON, M.B., L.R.C.P. LOND.,
TORONTO.

THE patient, Mrs. S., æt. 58, from whose scalp the growth presented to-night was removed, came to my notice first on January 15, 1895. There was to be seen over the sagittal suture, a little in front of the posterior fontanelle, a sharply-defined growth, round or somewhat oval in shape, adherent to and, in fact, involving the skin, but movable upon the calvaria. It was extremely hard and somewhat nodular to the touch. The skin covering it was of a purple or violet color, and presented an old cicatrix over the centre of the tumor. There were no enlarged glands to be found. Her general health was good, and had not been affected by the growth, which, however, caused her a great deal of pain at times.

Seventeen years ago, at the site of the growth, a wen developed. This gave no trouble until about seven years ago. While the patient had her head out of the open window, it fell upon the wen, and, to use her own words, flattened it out. About six months later a small lump, about one inch in diameter, developed. It stood out prominently like a horn, was rough and brownish in color, and about three years later there was a discharge of dark blood. Six years after the accident, or about three years after this growth had begun to discharge, it was removed by caustics and plasters. After about two months' treatment it healed up, leaving a rough, corrugated scar. Immediately after healing, the present tumor, which measures about two and a half inches in one diameter and two inches in the other, developed, and has grown rapidly of late.

Family history is good. All deaths have occurred at old age, without any history of tubercle, cancer, or other tumors. There were two other wens on the head.

February 8, 1895. Removed the growth. It was sharply circumscribed, and did not seem to have involved the surrounding tissue to any great extent. It has healed nicely, and, up to the present time, there are no signs of recurrence.

*Read before the Toronto Pathological Society, April 27, 1895.

On examination, the tumor is hard and nodular, and, with the microscope, it is seen to be made up of a dense stroma of vascular connective tissue, in the alveoli of which are large masses of epithelial cells. According to the embryonal theory of the origin of neoplasms, this growth would belong to that class in which cells from the epiblast or hypoblast preponderate over those of the mesoblast, in contradistinction to the connective tissue type, in which the mesoblastic elements only are found. Since there is no typical glandular arrangement of epithelium, we would call it carcinoma, remembering, however, that there is no hard and fast line between that class and the adenomata.

In studying this or any other epithelial growth from an anatomico-pathological standpoint, we must be careful not to make use of such terms as scirrhus and encephaloid. They only have a clinical significance, and, even when used in that sense, are very misleading. To use such terms when speaking of the structure of a neoplasm is inaccurate. This is illustrated by sections of this tumor. Some show an abundance of connective tissue stroma, with epithelial cells within the alveoli. This is characteristic of the so-called scirrhus. In other parts of the growth, again, there is such a deficiency of stroma and so many cells that one could be excused for calling it a medullary or encephaloid carcinoma. Any classification of carcinomata must depend upon the amount, nature, and arrangement of the stroma, and upon the number and character of the cellular elements. Since these conditions are variable in different parts of the same growth and at different stages of development, the words scirrhus, encephaloid, etc., can only be used to indicate the predominant features. They have simply a relative significance histologically. Scirrhus, when used clinically, in reality has no significance other than that of hardness, and encephaloid simply means soft, and neither word in any way gives us any clear idea of the nature of the growth with which we have to deal.

The embryological theories advanced in order to explain the pathogeny of cancer are not held to-day by those who claim to have found the so-called cancer parasite, but until further proof is given to the contrary it seems rational to maintain that all neoplasms develop from cells of the blastoderm. The connective tissue type develop from the mesoblast, and include the fibromata, myxomata, lipomata, sarcomata, etc., all having their physiological types represented in the organism. The epithelial type develop from the three layers of the blastoderm, the hypoblastic or epiblastic elements predominating. In addition to these two great classes, we have combinations of both types in the congenital tumors and cysts of different kinds.

The epithelial growths include the adenomata, in which there is a stroma of connective tissue, in the alveoli of which epithelial elements

abound, and there is actual formation of typical gland structure. There are transition forms between the adenomata and carcinomata, in which the resemblance to gland structure is not distinct, and these pass into the next class, in which there is cell proliferation in the alveoli of connective tissue without any typical glandular arrangement.

The primary site of cancer remote from some glandular structure is, in the nature of things, an impossibility. The occurrence of primary carcinoma of the peritoneum, pleura, and pericardium, which is not infrequent, was for a time hard to explain, because it was, and to a large extent still is, believed that the flat cells lining these great body cavities are true endothelium, and closely related in origin, as they are in structure, to the genuine endothelium of the blood and lymph vessels. It was formerly thought that the great serous cavities were developed from the connective tissue layers of the mesoblast, but it is now almost generally conceded that the great primitive body cavity, which after a time became divided into pleural, pericardial, and peritoneal sacs, is originally an outgrowth from the alimentary canal, and therefore the so-called endothelial lining is in reality of hypoblastic origin.

Granting that all carcinomata owe their origin to the rapid proliferation of epithelial cells, we will endeavor to explain the origin of the growth before us.

The patient was told that the growth removed a year ago was cancer. I am of the opinion that it was not. It was probably a mass of exuded sebaceous matter, which had become pushed up from below and had taken the form of a cutaneous horn, or granulations may have sprung up from the interior of the sebaceous cyst, and exuded as a fungating mass resembling an epithelioma. The three factors, age, chronic irritation, and dislocated epithelium, if the term be allowed, are sufficient to account for the growth on the embryonal theory without assuming any microbic element. Hutchinson and Boyce claim that chronic irritation may originate cancer, whether it be of microbic origin or otherwise. Soudakewitch, Ruffer, Pfeiffer, Wickham, etc., claim that only microbic irritants are effectual. Adamkiewicz discredits the theory of epithelial origin, and claims to have proven by experiment that the cancer poison is formed in the cancer cell, and that the cancer cell is itself the parasite. Only negative results have as yet been reached in the many researches for the cancer microbe. These researches have demonstrated that under certain conditions various micro-organisms may find a suitable abode in cancerous growths, but these have nothing whatever to do with the causation of cancer (Williams). The agency of micro-organisms is no more necessary to account for the development of cancer than it is to account for the development of any of the normal epithelial structures.

Virchow considers that irritation is the fundamental cause of all new growths. This is not consistent with the doctrine he has adopted concerning the correspondence between the embryonic and neoplastic developmental processes.

Cohnheim's theory that the only cells capable of giving origin to the new growths are those which have been displaced during embryonic life does not seem to go far enough. It is more rational to believe that neoplasms may arise wherever undifferentiated cells are present, and that they are most prone to originate where these cells are most abundant.

One of two things is probable in this case, either that the irritation from treatment caused a proliferation of epithelial cells already displaced during embryonic life, or that some of these cells, having reached full growth, became grasped by the cicatrix, thus changing their surroundings as they exist normally in the body. Under ordinary circumstances certain cells, whose function it is to replace others which have fulfilled their destinies, as in the skin, possess, to a greater or less degree, the character of embryonal cells; and, while in the struggle the growth of these cells may be held in check by conditions of pressure, nutritive supply, etc., if these conditions be altered, these cells may undergo prolific changes as significant as those of the alleged sequestered cells of Cohnheim. These cells, whether grasped by the cicatrix or not, grow and reproduce more rapidly than the others around them without any attempt at specialization and regardless of the requirements of the adjacent tissues. The more highly organized the structure the more slowly do the cells reproduce, and the approximation to the normal type is greater. In the one extreme we have a simple adenoma, a benign neoplasm; and in the other, where there is no orderly arrangement of cells, where, in fact, there is an attempt at the production of gland tissue, only reaching the earlier embryonic stage in that line of evolution, we have the carcinomata. The dividing line is not drawn sharply between them histologically, nor can it be done clinically. While these latter growths are spoken of as malignant, one class runs insensibly into the other, or a benign tumor may, by a process of development, become more cellular, the reproduction of cells may become more rapid, and typical arrangement may be lost, thus giving what is considered a neoplasm of the malignant type.

It is a mistake to speak of this as malignant degeneration. It is in no sense of the term a degeneration. The neoplastic cells give evidence of excessive vitality manifested by exaggerated and imperfect proliferation. They are larger than normal cells and the nuclei are also increased in size. The cells present no degenerative changes. The necrobiotic lesions which may be met with are secondary, and are only produced when the mass of the neoplasm is out of all proportion to the provisions made for its nutri-

tion. These are really cases of disease of the tumor. Verneuil and others claim that all retrograde processes in cancer are due to micro-organisms. New growths would be much more common than they are were it not for the restraining forces which the organism possesses. It is probable that the organism does not lose some of this inductive moderating power, but that the neoplastic cell has lost its receptivity to this influence. This incapacity of the cell to receive this inductive effect may be hereditary. This may be the rôle played by heredity in the pathogeny of cancer. The restraining influence of the organism may become diminished by age, or the incapacity of the neoplastic cell to be influenced may be increased, thereby accounting for the part that age seems to take in the causation of new growths. To illustrate this we have the tendency of warts, moles, and congenital tumors to take upon themselves malignant development in old people.

In reference to the association between primary cutaneous cancer and chronic irritation or pre-existing disease as a cause, the results of researches made by Volkmann differ materially from Williams' report of forty consecutive cases of primary cutaneous cancer under his own observation. In Williams' cases 11 or 27.5 per cent. were associated with pre-existing disease, cicatrices in four cases, congenital lesions in two, suppuratory cyst, soot-wart of eighteen years' duration, recent wound and chronic sinus each in one case. Volkmann found pre-existing disease in 88 per cent. of 223 cases, but these were not consecutive cases, but were cases recorded at different times by various observers, for the purpose of showing the relation between pre-existing disease and primary cutaneous cancer. When we fail to find chronic irritation in such a large percentage of cases of cancer we cannot with safety say that repeated irritations of long duration are necessary antecedents of cancer, though they are often precursors of it. We are only justified in believing that parts chronically irritated may be more likely to take on neoplastic development.

TREATMENT OF DIPHTHERIA BY ANTITOXIC SERUM— REPORT OF NINE CASES.

BY GEO. CLINGAN, M.D.,
TORONTO.

THE following nine cases I have been privileged to see and asked to report.

In all cases where the disease was only pharyngeal antiseptic sprays were used, in some peroxide of hydrogen diluted to suit the individual case; in others pyrozone also diluted; while in others there was used a solution of bichloride of mercury 1-1000 or 1-2000.

In any case where the larynx became involved the patient was put in a steam tent and had calomel sublimed at regular intervals.

With all the common stimulants, whiskey and liq. strychniæ, were used in such quantities as the case demanded.

The surroundings of the patients were all that could be wished.

CASE 1. Boy, æt. 13 years. Had had osteomyelitis nine weeks. Operated upon January 25, 1895, for necrosis tibiæ. On March 17 had immunizing dose of serum, *xxxv*. No change in condition between this and March 23, when constitutional symptoms pointing towards diphtheria began to show themselves. Temperature, pulse, and respiration keeping about as usual since operation. On this date (March 23), the patient having complained of soreness of throat, on examination membrane was found. A culture from this was made, and Klebs-Loeffler bacillus and streptococci shown to be present. March 24, constitutional symptoms were increased in severity, though there was little cervical adenitis. Membrane covered both tonsils, and there were two small patches on soft palate. Evening temperature $102\frac{4}{5}^{\circ}$. Serum 25 c.c.—New York brand—injectd. Erysipelatous rash at seat of injection appeared in a few hours, followed by swelling and pain, lasting several days. Throat clear in ten days. No sequelæ.

CASE 2. Boy, æt. 5 years. When first seen—December 3, 1894—parents complained of his having had “croup” for over two days. As the constitutional symptoms were severe, diphtheria was suspected. No membrane was to be seen in the throat, and 25 c.c. of serum injectd.

On morning of 3rd December, temperature was $101\frac{1}{5}^{\circ}$, pulse 142, respiration 48; in evening, temperature $102\frac{4}{5}^{\circ}$, pulse 138, respiration 48; following morning, December 4, temperature 102, pulse 126, respiration 40; evening, temperature $104\frac{2}{5}^{\circ}$, pulse 140, respiration 42. Died on December 5, temperature reaching $105\frac{2}{5}^{\circ}$. Post-mortem examination showed membrane on larynx, trachea, and bronchi.

CASE 3. Girl, *æt.* 13 years. Case of epulis. Temperature, pulse, and respiration had ranged about normal. March 16, 1895, without any apparent constitutional disturbance, became hoarse and had slight dyspnoea. March 17, evening temperature 103° . Antitoxic serum, (Behrings) 25 c.c. injected. Morning of 18th, temperature $99\frac{2}{5}^{\circ}$. No bacteriological examination made. For the week following, temperature varied between $99\frac{2}{5}^{\circ}$ and 100° . No change in rate and character of pulse. Voice entirely clear on March 23. No unfavorable complications or sequelæ.

CASE 4. Girl, *æt.* $1\frac{1}{2}$ years. Patient had had entero-colitis. On March 21, 1895, it was discovered the patient had membrane on both tonsils and some on soft and hard palate. Considerable enlargement of cervical glands. Bacteriological examination showed an almost pure culture of the Klebs-Loeffler bacillus. Serum injected on evening of March 21—the second day of the diphtheria—15 c.c. Temperature morning of March 21, 104° , evening $99\frac{4}{5}^{\circ}$; morning temperature of March 22, $104\frac{4}{5}^{\circ}$, pulse 85; evening temperature $103\frac{2}{5}^{\circ}$, pulse 160. Patient became progressively worse, there being gangrenous ulceration in mouth. Death occurred on March 25. The seat of the injection became black about twelve hours after the use of the serum, and remained so till death. The post-mortem examination showed gangrene from tonsil over alveolar margin of superior maxilla on left side, some teeth having fallen out.

CASE 5. Boy, *æt.* 9 years. Had been operated upon for suppurating cervical glands, after which temperature had ranged about 99° . On March 17 had an immunizing dose of antitoxic serum, *mxv*. On March 23 membrane seen on throat. Bacteriological examination showed Klebs-Loeffler bacilli and streptococci. Cervical adenitis was made no worse. On March 24 both tonsils, hard and soft palate, had membrane on them; 25 c.c. serum injected; no appreciable response; membrane disappeared in twelve days. Slight paralysis rendering swallowing of fluids difficult, there being a regurgitation into the nose, and there also being a nasal note in the voice.

CASE 6. Boy, *æt.* 4 years. On January 28, 1895, had one kidney removed for sarcoma; was very weak after this, but apparently had begun to recover. On February 10 showed some extra indisposition. February 11 membrane seen on throat. Bacteriological examination showed Klebs-Loeffler bacillus; 15 c.c. serum injected in divided doses. On February 12 additional 15 c.c. at single dose injected, patient in mean-

time having shown some laryngeal involvement. Total amount used, 30 c.c. Between February 12 and 14 temperature ranged between 99 and $102\frac{4}{5}^{\circ}$; pulse, between 156 and 180. After this temperature did not rise above 101° , nor fall below 90° . Death occurred February 20. In addition to membrane seen on tonsils and post wall of pharynx, there was some just below the vocal cords.

CASE 7. Girl, \ae t. 9 years. Operated upon March 6, 1895, for cleft palate. Temperature and pulse ranged about normal till March 16, when temperature rose to $103\frac{2}{5}^{\circ}$, and pulse to 128. March 17, morning, temperature, $98\frac{2}{5}^{\circ}$; evening, temperature, $100\frac{2}{5}^{\circ}$; pulse, 120. Painful cervical adenitis present, afterwards these enlarged glands suppurred. Same day (March 17), second of disease, membrane covering both tonsils, and also on hard and soft palate and on posterior wall of pharynx; membrane covered line of incision along the line of the cleft; 25 c.c. serum Behring's injected. Membrane disappeared on March 29, thirteen days after appearance. On April 17 took a journey home by railway, about twenty-five miles. On April 22 died of heart failure. While under treatment for diphtheria required vigorous stimulation.

CASE 8. Girl, \ae t. 3 years. Treated for five weeks for inanition, bringing time up to March 19, 1895, on morning of which day temperature was $98\frac{2}{5}^{\circ}$; pulse, 108. Hoarseness appeared. For two weeks temperature had been about normal; pulse, 85 to 110. Evening of March 20 temperature was $100\frac{3}{5}^{\circ}$; pulse, 152; respiration, 24. Morning of March 21 temperature was $101\frac{2}{5}^{\circ}$; pulse, 168; respiration, 36. No membrane to be seen. March 21, second day of symptoms, 15 c.c. antitoxic serum injected. Patient died on March 27, becoming progressively worse up till time of death, the pulse reaching 168 and the respirations 48 per minute. Post-mortem examination showed membrane over larynx, trachea, and into finer bronchioles. Bacteriological examination showed Klebs-Loeffler bacillus.

CASE 9. Woman, \ae t. 30 years. Had nursed a child with diphtheria, becoming somewhat fatigued, and on February 13, 1895, felt seriously indisposed. Morning of February 14 temperature was $102\frac{4}{5}^{\circ}$; pulse, 78; evening, temperature, $103\frac{4}{5}^{\circ}$; pulse, 82. Membrane appeared on tonsils, post wall of pharynx (partly covered), and a small piece on soft palate—uvula streaked and very oedematous. The whole throat was very deeply congested and very painful, and very considerable cervical adenitis present; appetite became very poor. An examination of membrane showed Klebs-Loeffler bacillus. On February 15 first injection of antitoxic serum was given, to which there appeared to be some favorable response, some small pieces of membrane becoming detached from posterior wall of pharynx on the following day, the temperature also falling a little. Imme-

diately after the injection the patient was very much exhausted. Last injection of serum was given February 20, a total of 65 c.c. having been administered. February 21 the seat of the injections became swollen and itchy, and erysipelatous-looking, while the following day a rash resembling that of measles appeared over the whole body. The itchy parts became very painful, the pain extending into the surrounding soft parts and into the neighboring joints. The temperature remained high, reaching $104\frac{2}{3}^{\circ}$ and declining slowly. After that following the first injection there did not seem to be any response to the injections of the antitoxic serum. Two weeks after the last injection the temperature reached normal, the membrane having disappeared twelve days after its appearance. The pulse at no time rose above 102, the usual range being from 88 to 96 per minute. After recovery there was some pain on attempting to use the eyes, and there was also some difficulty in swallowing fluids.

SUMMARY. Of the nine cases cited death occurred in five, recovery in four. One case had apparently recovered, but died subsequently of heart failure.

In the one adult the diphtheria ran a very severe course.

One laryngeal case—and, hence, only supposed to be diphtheritic—(Case 3)—responded immediately to treatment.

Rash appeared at seat of injection in the cases, and, in two, obstinate pain—in one at seat of injection alone, and in the other in surrounding parts as well.

Those cases in which the serum had been given a week previous recovered, though the throat symptoms were severe.

In one case where death occurred, and where throat symptoms were more severe than in any other case, the culture was almost pure Klebs-Loeffler. (Case 4.)

The membrane spread in some of the cases after the injections of serum.

REPORT OF ONE HUNDRED AND FORTY-FIVE OPERATIONS DONE FOR REMOVAL OF OVARIAN TUMORS AND PATHOLOGICAL CONDITIONS ASSOCIATED WITH THE OVARIES AND UTERINE APPENDAGES ONLY.*

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(Continued).

CASE 55. Mrs. A. R., family history negative. Patient always in good health. Menstruated at fifteen; regular; menopause at thirty-seven. Ten children; one labor tedious and painful. May, 1891, first noticed enlargement of abdomen, which grew rapidly, causing dyspnoea and pain. Coeliotomy, October 6, 1891, before class; multilocular ovarian cyst; trocar in sac and gallon grayish, foetid pus removed; pedicle ligated and cut away; removal of both ovaries; peritoneal cavity flushed with hot water; drainage tube lower end wound, packed with iodoform gauze—removed second day; fourth day, in absence of nurse, patient got up; same next day, with no inconvenience except increased heart's action—120. Gained gradually; homesick and discontented and allowed to leave on the eleventh day. Recovery excellent.

CASE 56. Mrs. N. P., family history of consumption and cancer; well when young; menstruated at fourteen—regular, except at seventeen, when she had amenorrhœa for three months; no children; no miscarriages; 1889 doctor noticed tumor in right side; aspirated winter of 1891, through vagina, discharging for a long time; lost flesh; appetite good, bowels regular. Coeliotomy, October 8, 1891; abscess in layers of broad ligament; aspirated—about six ounces of pus removed; great adhesions to intestines; glass drainage; nausea and vomiting for two days—improved after that rapidly; rubber tube substituted for glass few days before she went home, when she felt very well. Discharged twentieth day. Gained rapidly in flesh and strength; was well for nearly a year;

then had an attack of pelvic peritonitis, followed by abscess, and died, I am informed, of sepsis.

CASE 57. Mrs. E. J. L., mother died of consumption, aged forty; indefinite history of dropsy. Menstruated at fifteen—regular before marriage at twenty-three. Since flow prolonged and lasting six days; sometimes overruns two or three weeks; once sixteen months. Feet wet eight years before operation, when the flow was excessive. One child, nineteen months old. Two attacks of peritonitis—rheumatic troubles occasionally. First noticed tumor right side of abdomen after birth of child—grew rapidly the following summer. Slight dyspnœa. Cœliotomy, October 15, 1891. Unilocular ovarian cyst; six quarts of fluid removed; pedicle ligated and tumor removed with both ovaries; suffered second day from nausea and vomiting—lasting two days. Patient did well after this; stitches removed sixth day; sat up twelfth day. Regained strength very rapidly, and went home on sixteenth day.

CASE 58. Miss I. R., æt. 19; family history good. Confined to bed part of time during menstruation. Diagnosis of chronic ovaritis with salpingitis and operation advised. Cœliotomy, October 19, 1891; left ovary much atrophied; removed with tube; right undergoing cystic degeneration, also removed with tube; much nausea and vomiting; considerable pain in abdomen after operation, but soon recovered; had uneventful convalescence, returning home on twentieth day. Three months after began to vomit—though having gained much in flesh and strength—which continued more or less until patient finally died with all the symptoms of cancer of the stomach, one year after operation.

CASE 59. Miss L. L. McC., same patient operated upon October 7, 1890. November 9, 1891, not having improved, second cœliotomy performed; left ovary, size of hen's egg, found undergoing cystic degeneration, and removed with tube; patient much nauseated for several days, after which she made an uninterrupted recovery. Discharged on twenty-ninth day. In excellent state of health August 1, 1894.

CASE 60. Miss K. E. M., father died of consumption, aged fifty; history otherwise good; menstruated at fourteen; regular. October, 1890, noticed distension of abdomen, which increased; no pain until summer of 1891, then some in right inguinal region. Cœliotomy, November 24, 1891; unilocular ovarian cyst; eight quarts of yellow fluid removed; tumor from left ovary; pedicle tied; right ovary cystic and removed; dressed as usual. Patient improved rapidly without any disturbance, and discharged on fifteenth day.

CASE 62. Miss L. McK., cystic degeneration ovaries; pelvic peritonitis—salpingitis; removal uterine appendages—many adhesions; recovery; bowels moved fifth day; stitches removed seventh day. Discharged twentieth day.

CASE 63. Mrs. M. B. M., æt. 33; family history negative. Since birth of first child, November, 1888, has had severe attacks of peritonitis, with constant pain, more or less severe; no permanent improvement under continuous treatment; I saw her with family physician, December, 1891, agreeing with him as to diagnosis of pelvic peritonitis with probable pyosalpinx. Cœliotomy, December 14, 1891; tubes very much enlarged, distinct pyosalpinx right side, ovaries in a condition of cystic degeneration, many adhesions and a tedious operation; glass drainage tube; good recovery, and discharged thirty-second day. In good health up to October and November, 1893, when she had a discharge from vagina very much like menstrual flow. Repeated once during winter of 1894, Dr. Pond, family physician, previously discovering cystic enlargement connected with right cornu of uterus. Aside from this, patient in excellent health. I saw her in May, 1894; no return of discharge; uterus seemed atrophied somewhat, but in good position; otherwise pelvis presented a normal condition.

CASE 64. Mrs. F. E. D., paternal grandmother, died of cancer of uterus—otherwise, history negative. Diseases of childhood—otherwise healthy. Menstruated at twelve—regular—pain at first. Married at sixteen years; first child ten months after; four born; youngest, two and one-half years. September, 1890, pain low down in pelvis, left side; flowed two weeks; in bed three; since severe pain, continuously increasing in area; more severe during monthly periods. Cœliotomy, January 2, 1892; oöphorectomy; tubes enlarged, containing pus; ovaries enlarged and cystic. Drainage; oozing for a few days. Rallied quickly; good recovery. Discharged fifteenth day.

CASE 65. Mrs. D. B., phthisis on mother's side; otherwise history negative. Diseases of childhood. Menstruated at thirteen; regular until eighteen, when married. First child at nineteen; second, at twenty-three. Since birth of first child, very weak; pain in back, and right inguinal region—some leucorrhœa. Cœliotomy, January 26, 1892. Miliary tubercles over peritoneum; right ovary removed—tubercular; drainage; wound dressed in usual manner. Patient rallied nicely; continued to improve constantly; drainage tube removed on seventh day; went home on twenty-fifth day, very much improved and stronger. Good health in fall of 1894.

CASE 66. Mrs. M. K., æt. 27; personal history good; family history of phthisis; one sister had tumor of neck. From 1882 to 1888 noticed abdomen distended at menstrual periods, decreasing a few days afterwards; but, in 1888, increase more prominent on left side. January 30, 1892, diagnosis of ovarian tumor. Cœliotomy, February 2, 1892. Unilocular cyst of right ovary; very broad pedicle; dermoid cyst con-

nected with left ovary; removed. In closing incision hæmorrhage presented from pedicle on right side; controlled by chain stitch, and using fine silk for stitching over and over the peritoneal surfaces. Patient reacted well. Visited her at 4 p.m., and her condition led me to fear internal hæmorrhage; she was restless; pulse, 140; immediately reopened, but only about one ounce of bloody serum in cavity of pelvis; ligatures, etc., in good condition. Drainage introduced; patient recovered during night; following day seemed much better, but heart's action weak, although other conditions favorable, and she died unexpectedly February 8 at 5 p.m. Autopsy revealed cause of death to be pulmonary embolism of right lung, with clot in right heart. I believe it was a great mistake, on my part, to reopen the peritoneal cavity. It was an additional shock to the patient, and, if avoided, she might have recovered.

CASE 69. Mrs. F. S., tubercular peritonitis. Removal of uterine appendages March 9, 1892. Recovery. Discharged thirty-first day. This patient had some symptoms of a return of her disease a year later.

CASE 70. Miss B. C., tubercular peritonitis. Cœliotomy, April 8, 1892. Removal of uterine appendages—drainage tube packed often. Removal of sutures on twelfth day. Recovery. Discharged thirty-second day. After history satisfactory.

CASE 72. Mrs. A. H., family history negative. Diseases of childhood. Menstruated at thirteen; regular, profuse. Typhoid fever at ten. January, 1891, sharp abdominal pains—constipated two years—micturition normal; lost flesh. Cœliotomy, May 26, 1892. Large trocar introduced; removed four gallons of fluid; cyst adherent in several places—pedicle in right ovary—adhesions ligated; drainage inserted. Patient recovered nicely. Discharged thirtieth day.

CASE 73. Mrs. L. G., æt. 42; family history negative. July, 1891, severe pain in region of right ovary; repeated attacks, followed with vomiting. Two years after first attack abdomen enlarged; May 27, 1892, patient measuring forty-six inches around umbilicus; large quantity of sugar in urine; specific gravity, 1038; however, I was induced to operate, and cœliotomy was performed May 29, 1892. Multilocular ovarian cyst from left ovary; glass drainage; removed second day. Until this time no unfavorable symptoms; secretion of urine abundant; specific gravity, 1030; color unchanged, etc., but large quantity of sugar present. Amount passed second day, twenty-four hours after operation, fifty-six ounces, when secretion suddenly ceased; patient sank into comatose state, dying in the night on third day after the operation. Truly, this was a case not suited to any operative interference, and should have been left alone, or merely tapped.

CASE 74. Mrs. I. L., father died of cancer in stomach; otherwise

history negative. Diseases of childhood. Menstruated at fourteen ; normal ; 1885, severe pain in right ovary, aggravated when riding or walking ; attack lasted one year ; in 1891, abdomen enlarged ; continued until operation. In April, 1892, raking in yard, when seized with severe pain in right side ; continued for several days ; enlarged more rapidly after this. Coeliotomy, June 15, 1892. Cyst wall laid bare, trocar introduced, and two gallons of fluid removed, tumor from left ovary adherent in several places ; left ovary and tube removed ; abdomen flushed with warm water ; six-inch drainage tube inserted, packed with iodoform gauze. Patient made excellent recovery. Discharged twenty-ninth day. In good health June, 1894.

CASE 76. Mrs. L. C. B., paternal grandmother died of cancer. Patient well and strong. Menstruated at fifteen ; regular until menopause at fifty. Since flowed irregularly until the age of sixty. Ten children ; two miscarriages. March, 1891, first noticed pain and growth in right side, ovarian region ; not definitely located in one spot. Gradual enlargement of abdomen, but pain and soreness left after a few weeks, returning in March, 1892. September, 1892, very little pain in abdomen ; vomited some ; persistent insomnia. Coeliotomy, September 30, 1892. Large multilocular ovarian cyst in right side removed ; one or two cysts emptied in peritoneal cavity. Fluid clear in color ; sixteen pints ; drainage tube removed in twenty-four hours ; vomited fourteen hours. Good recovery. Discharged thirteenth day.

CASE 77. Mrs. H. G., æt. 40, widow, family history of phthisis. Menstruation always accompanied with more or less nausea, with vomiting. Married at thirty-six. Husband dissipated ; married life not happy. September, 1890, had first attack of pelvic peritonitis, three months after abdomen enlarged, left side, in broad ligament ; another attack of pelvic peritonitis six months after first, tumor gradually enlarging. December 11, 1891, suffered from all symptoms of suppuration. At one time patient was able to get out, came to my office, and I confirmed her physician's diagnosis as that of double pyosalpinx, with pelvic abscess, origin probably specific. Coeliotomy, October 10, 1892. Double pyosalpinx, removal of uterine appendages very tedious. They were the largest, and abscess cavity greatest, of any specimen I have ever removed. Glass drainage ; discharge on examination gave evidence of gonococci being present. Patient rallied well from operation, all seemed well up to end of fourth day, when vomiting began, presenting evidences of peritonitis with great exhaustion ; died at end of sixth day.

CASE 80. Miss E. W., æt. 24. Decided history of phthisis. Patient had well-marked lateral curvature with rotation. Menstruation more or less irregular, during which time abdomen enlarged for three days,

and she suffered much pain. Increase more rapid after 1891. Cœliotomy, November 1, 1892. Multilocular cyst, right ovary; broad pedicle. Some adhesions, but not firm; drainage; vomiting not well controlled. Intestinal obstruction on third day, not relieved by any line of treatment, and patient died end of fifth day. Death caused by adhesions between small intestine and stump of pedicle.

CASE 81. Miss E. W., paternal side tubercular. Patient had very severe nose bleed; bleeding stopped at age of twelve, when menstruation began; but patient suffered sharp pain in back. 1891 noticed enlargement of abdomen, which increased rapidly. Attacks of dyspnoea. Cœliotomy, November 3, 1892. Diagnosis of multilocular ovarian cyst confirmed; fluid clear and straw-colored; pedicle ligated; incision closed. Wound healed by first intention; no drainage. No complications. Patient sat up seventh day, when stitches were removed. Discharged twentieth day.

CASE 84. Mrs. E. G., family history good, with exception of father, who died of consumption. Patient well and strong; worked very hard. Menstruated at twelve; ceased; again regular at sixteen, until 1884, when pregnant. 1888, first noticed pain in left side, region ovary, to pubis and knee. Trouble in passing urine. Bowels very constipated; worse at times. October, 1892, movements once in eight or nine days. March, 1892, very severe pain until June, then patient went to Troy, undergoing operation for "falling of womb." In bed four weeks. When lying down sensation of difficulty in breathing; vomited everything placed in stomach unless in standing or sitting position. Flowed after operation more or less. Upon movement patient felt something move in abdomen, giving sensation of bag filled with water. Cœliotomy, January 16, 1893. Cyst presented, fluid removed; not many adhesions; different cavities of multilocular cyst emptied. Pedicle ligated, including left ovary. Degenerated ovary, right side; tube, containing pus, removed. Patient rallied well. Discharged nineteenth day.

CASE 85. Miss F. W., father died of gastritis, maternal grandmother of cancer stomach. Patient well and strong. Menstruated at twelve, regular to one year ago, flow scanty every three weeks. 1889 abdomen became distended, gradually increasing. Contents of abdomen and contour changed one side to other when changing position. Sense tension over abdomen and down thighs. Cœliotomy, January 18, 1893; ovarian cyst, removed, with right ovary. No adhesions. Left ovary healthy and left. Recovery uneventful and discharged twenty-first day.

CASE 86. Mrs. M. B., æt. 40; father died of dropsy, otherwise family history good. 1888, had peritonitis, more or less distension following; no further pain until 1892, when soreness appeared in region of umbilicus. Continued for two months, gradually left, but abdomen continued to dis-

tend. December 21, 1892, was tapped, five gallons of thick yellow-like fluid being removed. Remained in bed three days. Fluid continued to ooze from opening made by trocar for several days. Distension of abdomen not greatly relieved, but passed urine more freely and bowels moved readily. January 16, 1893, saw patient with family physician. Measured nearly sixty-three inches at umbilicus, so tense and full it was impossible to distinguish between ascites and possible tumor, but from nature of tapping I believed she had a multilocular ovarian cyst. Pelvic examination of very little assistance, patient being so fleshy cervix could scarcely be reached. Coeliotomy done January 18, 1893, at 11 a.m. Some ascitic fluid removed, multilocular cyst of left ovary found, larger sac emptied twenty-seven pints thick, dirty fluid. Several smaller cysts opened, and with sac weighed nearly four pounds. Patient found about four months pregnant, although she gave no rational symptoms of this condition. Right ovary and tube normal. She did nicely for forty-eight hours, when she suddenly developed active uterine pains and abortion, having sharp post-partum hæmorrhage. Although pulse was good, and she rallied well from miscarriage, she kept up a constant state of worry, and died January 23. Could this case have been reached earlier, particularly after first tapping, I believe her chances for recovery would have been very good.

CASE 87. Mrs. F. K., family history good. Menstruated at twelve; regular. One child; no abortions. 1885, while pregnant, fell, but did not hurt herself much. Soon after pain came in left ovarian region—more at times than others—when at work. After birth of child somewhat worse. Pain continued; sometimes could feel bunch seemingly deeply located at umbilicus—left side—this region sore to touch. April, 1892, growth higher up in iliac region; growth more rapid two months previous to operation. Coeliotomy, January 23, 1893. Tumor presented; nine pints darkish fluid removed with sac and left ovary; pedicle tied as usual—no adhesions. Upon examination of right ovary small cyst was found very adherent and held down firmly. This cyst was also removed and pedicle ligated. Closed as usual. Patient made splendid recovery. Discharged twenty-third day.

CASE 88. Mrs. A. W. K., family history fair. Menstruated at thirteen; always pain till age of twenty, when child born—afterward menstruated regular. Had acid dyspepsia, but general health better. 1885, fibroid tumor uterus diagnosed. Menopause at thirty-five. 1887, abdomen began to enlarge, but did not pay much attention to increase in size till Christmas, 1892, when she began to have severe pain in left side and groin. For three weeks before operation she was not able to lie down at night, but slept in large chair. Since Christmas 1892, enlargement was very marked. Was

consulted December 31, 1892, and advised an operation. Coeliotomy, February 2, 1893. Removed about twenty-five pints of dark fluid and large multilocular ovarian tumor from right side; found tube and ovary in left side perfectly normal. Slight adhesions. Recovery. Discharged twenty-eighth day.

CASE 89. Mrs. D. S., æt. 34; family history negative. Mother of three children—five miscarriages. March, 1892, very ill, giving history of probable pelvic peritonitis. Husband dissipated, and treated for specific urethritis. August, 1892, patient had another similar attack. I saw her November 7, 1892, advising removal uterine appendages, believing case one of double pyosalpinx, having specific origin. She did not reach hospital until February 8, 1893, growing constantly weaker. Coeliotomy, February 11. Tubes very much distended, filled with pus; large abscess on left side. Sac attached to rectum, very serious adhesions; operation long and tedious, but finally completed, cavity thoroughly flushed with hot saline solution and left in nice, dry condition, all bleeding points having been controlled. No drainage. Patient reacted well, kidneys did their work well, very little vomiting, and symptoms seemed favorable, but patient died in condition of exhaustion on third day.

CASE 90. Mrs. E. D., family history negative. Menstruated at thirteen; normal. Inflammation of the bowels when sixteen; for two years following having attacks of malaria in summer. At twenty attacks of bronchitis and asthma, occurring at intervals. February 28, 1891, had bearing-down pain, increasing every month until May, when patient had pneumonia (doctor called in for uterine pain). Breasts became so large she could not wear corsets; abdomen bloated, pain in back, and circulation poor. Under local treatment for three months patient was relieved, but at end of this period pains came on again, increasing every month. In May, 1892, Dr. Brownell, Oneonta, N.Y., dilated cervix, but pain continued, although treatment carried out. Saw her October, 1892; thorough cervical dilatation, but patient unable to wear stem pessary on account of pain; every month since pain increased in severity at flow. Coeliotomy, February 13, 1893. Pyosalpinx, both sides; parovarian cyst and structural change in left ovary. Removal of uterine appendages. Stitches removed on twelfth day. Discharged on twentieth day. This patient finally made a good recovery, though having some of her old pains for a year afterward.

CASE 91. Mrs. A. W., family history good. Menstruated at fourteen, accompanied with pain for the first three months; later painless until birth of second child. At eighteen confined to bed with what physicians termed kidney disease. Passed urine frequently, but small amounts; leucorrhœa. Since birth of second child has had severe pain over ovarian region,

especially marked on left side. August, 1892, sudden stoppage of menstruation. Had cold, then high fever; lost much flesh; delirious for six hours. Constantly thirsty; passed a large quantity of urine. Prolapsed ovary on left side. Her physician stated that during the summer of 1892 urine contained sugar; previous to operation repeated examinations failed to reveal any. Coeliotomy, February 16, 1893. Left ovary prolapsed and degenerated, showing beginning of tumor. Right ovary cirrhotic, with parovarian cyst near. Right duct stenosed markedly about one and one-half inches from ovary. Removed uterine appendages. Discharged cured March 4, 1893. Patient is in excellent health, June, 1894.

CASE 92. Mrs. K. W., family history good. Menstruated fourteen to fifteen—no trouble—no children—no miscarriages. February, 1891, had quivering pain in left side, then went to the other side, pains increasing every month. Consulted Dr. Magee, of Lansingburgh, who diagnosed ovarian trouble. Went to bed till August, 1892. In February, 1893, pains came on again, and I saw her March 13, 1893, devising operation; coeliotomy, March 18, 1893. Both ovaries in a state of cystic degeneration and removed. Vein in abdominal wall bled quite a good deal. Dr. Macdonald put in two deep sutures, stopping all bleeding. Firm adhesions. Recovery. Discharged on twenty-first day. Year later was doing well.

CASE 93. Mrs. S., æt. 27. Confined normally about two weeks previously. Chills on the fourth day, with high temperature; consulting physician curetted uterus thoroughly; some detritus. Patient improved, but relapsed in a few days, when second curetting was done. Case finally concluded to be one of pyosalpinx, I was telegraphed for, prepared to operate. No abdominal distension, temperature one hundred and four and upwards, decided chills, severe perspiration; no evidence of general peritonitis; bowels moving, but local tenderness over pelvic region. Uterus well contracted. Coeliotomy, April 19, 1893. Right ovary and tube enlarged, giving evidence of septic trouble, and removed. Good recovery from operation, but slight tendency to suppuration of one superficial stitch. Chills not controlled. Every medical aid given, but patient gradually grew worse, dying on fourth day after operation. Examination of ovary removed did not reveal any marked septic suppuration. Case probably one of true septicæmia.

CASE 94. Miss J. K., family history of phthisis. Patient rather delicate. Menstruated, October, 1892; regular until February, 1893, when no flow up to the time of operation. In February pain in right side, distending abdomen; increased after walking or meals, but improved by aiding digestion. Abdomen enlarged, and more or less pain. Coeliotomy, May 2, 1893. Diagnosis of tubercular peritonitis confirmed. Incision made and drainage continued. Patient left hospital on the twenty-eighth

day. Later gave evidence of returning symptoms of disease, but afterwards improved.

CASE 95. Mrs. P. D., grandmother died of cancer, otherwise history good. Patient always healthy. No children—no miscarriages. Menstruated regularly. First noticed enlargement of abdomen in 1891, about median line; some pain in left groin, never severe. Enlargement increased in size, but did not influence her general health. Always able to do her work. Last few months distension somewhat more rapid. Coeliotomy, May 4, 1893. Diagnosis in left ovarian cyst confirmed. Cyst removed. Bowels moved on second day. Recovery uneventful. Discharged on twenty-third day.

CASE 96. Mrs. E. P., æt. 50, family history of cancer. 1879 ovarian cyst removed from left side by Dr. Thomas, of New York; menstruation normal until menopause, just previous to second operation. 1889 right side began to enlarge until she was very much distended. Diagnosis of multilocular ovarian cyst. Coeliotomy, May 16, 1893. Diagnosis confirmed. Uneventful recovery. Discharged on fifteenth day. Case of interest simply in being second operation, last incision being made through old cicatrix, which was found in good condition.

CASE 97. Mrs. I. P., family history very good. Patient had grippe, 1889, health not good since. Menstruated at eleven; regular until two months previous to operation; since flow increased. September, 1891, first child was born; no miscarriages. August, 1892, had what she thought a miscarriage, but attending physician considered it an abdominal tumor. After this period I noticed some enlargement of abdomen, but at menstrual periods seemingly less. Prolapsus since birth of child. Worse in May, 1893, and confined to bed. Severe pain in side and lower part of back. At first occasional severe pain, but three weeks previous to entering hospital was very severe. July 20, 1893, saw patient; general peritonitis and so critical I tapped her, removing 108.5 c.c. coffee-colored fluid. Great relief followed, having good effect, with other treatment, in controlling peritonitis. Coeliotomy, July 24, 1893. Multilocular ovarian cyst; tapped from within, several places, to admit of removal. Adhesions very slight; easily separated by hand and sponge. Glass drainage; removed on following morning; little, if any, discharge. July 28, stitches removed; patient discharged on August 12, doing well. Patient gave history of morning sickness, some nausea during day, but certain she was not pregnant and general report against such being the case, still uterus gave evidence of about three months' pregnancy. In pelvic examination could isolate uterus, which was enlarged, and I said to her husband and friends I thought she might be pregnant. Later, this patient presented all the signs of pregnancy, and was delivered at the time of a fine, healthy child, since which time she has been in perfect health.

CASE 98. Mrs. M. F., father died of cancer, aged sixty; otherwise family history good. Menstruated about fourteen; regular. No children; no miscarriages; no serious illness, with exception of smallpox. Says, however, at four years of age she had an abscess in her side. March 25, 1893, took suddenly sick in the night; feeling of weakness; next morning fainted several times, also vomited slightly. Eating caused cramps in the abdomen. Diagnosis, tubercular peritonitis, confirmed when cœliotomy done September 7, 1893. Peritoneum extremely adherent to underlying structures. Large sac presented, first supposed to be a cyst; to settle this point it was tapped and some fecal matter and gas escaped, so pronounced a distended colon. Opening in colon closed without drainage. Patient rallied well from operation. Stitches removed nine days after operation. Discharged September 20, 1893. In excellent health six months after operation.

CASE 99. Miss M. S., diagnosis of ovarian cyst; father killed; mother died of some form of heart trouble; one sister died of phthisis. No family history of cancer. Menstruated at fourteen; always regular. In 1878 noticed enlargement of abdomen, supposed to be due to dropsy; not attended by pain; enlarging very slowly until 1892, after which time it grew more rapidly; did not know which side enlargement appeared first. Cœliotomy, September 8, 1893; no adhesions; both ovaries removed; incision closed without drainage; wound healed without any unpleasant symptoms. Patient returned to her home feeling exceedingly well.

CASE 100. Mrs. E. G. D., father died of disease of liver; mother of cancer of the stomach. Patient healthy until menstruation at sixteen; very painful in region of right ovary; no children; thinks she was once pregnant, not menstruating for one and one-half months; called physician, who gave her something to make her flow; flow very profuse, and thinks since never pregnant. In 1889, severe attacks of pain in region of right ovary; so severe could not bear her feet on the floor. In 1892 again very severe pain in lower part of abdomen; obliged to urinate every five or ten minutes; vaginal douche relieved this, however. February, 1893, dilated for anteversion, after which she improved slowly. July 5, 1893, flowed; from 11th to 30th August flowed slightly every day; August 16 again seized with severe pain in region of right ovary; September 6 flowed naturally. On examination the uterus was found empty, and tumor, large as an orange, present. Ectopic gestation diagnosed by physician, Dr. E. M. Pond, Rutland, Vt., immediate operation being advised. Brought to Albany hospital Saturday night, September 16, 1893. Cœliotomy, September 17, 10 a.m.; right tube contained remains of extra-uterine pregnancy; removed; pyosalpinx left ovary and tube removed; drainage introduced; patient rallied from operation well; glass drainage tube removed, rubber

substituted, on third day; stitches removed ninth day, wound almost entirely healed; uninterrupted recovery, and discharged in good condition twenty-third day. Excellent health since.

CASE 101. Mrs. E. W., family history of tuberculosis on both sides. Patient very delicate. Menstruated at fifteen; very irregular, painful, and scanty, frequently confined to bed for two or three days; no flow for three months previous to operation. Married twelve years; three children; no miscarriages; very difficult labors; pain in region of right ovary eight or nine years; sensation of throbbing, and as though a tumor the size of an egg present. Family physician referred the case to me for removal of tubes and ovaries; diagnosed pelvic peritonitis and pyosalpinx, in which I fully agreed. Cœliotomy, September 21, 1893. Very many adhesions; both ovaries removed; drainage tube removed third day, stitches eighth. Patient did well, and discharged October 25, 1893, in good condition. In excellent health June, 1894.

CASE 102. This illustrates the necessity of the surgeon not allowing the pleadings of the patient to move him in the least in his line of action. Mrs. J. C. D., æt. 28; no children; irregular in menstruation. Saw her with family physician August 15, 1893; menstrual period skipped six weeks previously; severe pain in right side August 13, with some shock and slight hæmorrhage from uterus; patient grew rapidly worse on the 14th; placed in bed, some shock and evidence of internal hæmorrhage during the day; recovered during night, and on morning of the 15th I confirmed her physician's diagnosis of probable extra-uterine pregnancy. Against our better judgment we yielded to her pleadings not to have an operation; she did nicely for three weeks; symptoms returned, and we operated on September 21, removing four months' fœtus, with placenta, also many clots from pelvic and abdominal cavity, right tube being implicated. Patient did not rally, and died twelve hours after operation. We should have operated at once upon presentation of symptoms so unmistakable.

CASE 103. Miss G. T., family history good. Diagnosed tubercular peritonitis, possibly ovarian tumor. Patient never strong. Menstruated at thirteen; never regular, and flow scanty. In 1891, caught in the rain while menstruating, and dates illness from that time. Five weeks previous to operation abdomen enlarged rapidly, patient losing some in flesh; bowels and kidneys normal. Cœliotomy, September 22, 1893. Large amount of reddish fluid removed from abdominal cavity, latter thoroughly washed out and glass drainage introduced; stitches removed ninth day; drainage on fifteenth day, when iodoform gauze was substituted. Patient recovered without any unfavorable symptom, and discharged November 15, 1893.

CASE 104. Mrs. M. V., family history of phthisis. Patient always healthy. Diagnosis of ovarian tumor. Menstruated at fourteen; regular; summer of 1892, skipped two months without flowing. Patient *æt.* 52 at time of operation. Since October, 1892, menstruated more or less continuously. June, 1893, first noticed abdominal tumor, although she thought abdomen was getting larger before this. August, 1893, had severe pain, lasting about one week. This especially severe when attempting to work. Could not lie down, but had to be bolstered up in bed. Cœliotomy, September 23, 1893. Large ovarian tumor in right ovary. Seven quarts of fluid removed. Some adhesions. Good recovery; clean, fine wound. Discharged twenty-third day.

CASE 105. Mrs. E. E. Mother died of consumption; otherwise family history good. Patient healthy as a girl. Menstruated at thirteen; regular; menopause seven years previous to operation, at forty-seven years of age. About a year previous to operation, ailing, and during past six months grew larger, but able to walk and lie down comfortably until six weeks ago. Since noticing tumor, bowels constipated ankles never swollen. Diagnosis, multilocular ovarian cyst. Cœliotomy, September 25, 1893. Large multilocular ovarian cyst; tapped and removed with ovary, right side. No drainage. Twenty pints fluid removed. Patient did well, and discharged sixteenth day. Good health, August, 1894.

CASE 106. Mrs. I. A. Family history good. Oldest child nine years of age had it lived. When seven months pregnant, taken sick, and had convulsions, followed by abortion, and child born dead. Youngest child three years and seven months old. Menstruation always regular. In 1889, noticed abdominal enlargement, which steadily increased. Tumor, when first seen, large as hen's egg, and movable when lying down. Cœliotomy, September 28, 1893. Multilocular ovarian tumor. Fourteen quarts fluid, dark, gelatinous, coffee-colored, removed, also tumor, right and left ovaries. Drainage. Patient did well, and discharged twenty-first day with no unfavorable symptoms.

CASE 107. Miss E. E., *æt.* 20. Two years previous to operation suffered much pain in left inguinal region; mental condition not at all good; tendency to melancholia. Spring, 1893, found to be suffering from ischio-rectal abscesses, with fistulous tract; also an opening into the vagina discharging pus. Very severe case of vaginitis, requiring thorough operation. Good recovery, with exception of sinus connecting with vagina. Mental condition such that, later, oophorectomy resorted to. Cœliotomy, October 4, 1893. Left ovary diseased; double pyosalpinx; removal uterine appendages. Patient made a good recovery; some improvement in general condition. Sinus in vaginal wall, left side, healed. June, 1894, not fully improved in mental condition.

CASE 108. Mrs. M. S. Family history fair. Patient well, with exception of attacks of neuralgia, until marriage. Three children born, one alive. Four miscarriages; last, summer of 1892. Very ill during parturition. Menstruated at twelve, and, during pregnancy, after third month up to confinement. Regular since curetted, July 26, 1893. Six weeks previous to operation had peritonitis, keeping her bed almost continuously. In 1891 Dr. Boyd operated, she thinks, for lacerated perinæum. June, 1893, some intestinal obstruction, bowels not moving for three weeks. Coeliotomy, October 7, 1893. Both ovaries and tubes removed; latter adherent, and right one cystic. Right tube in a condition of pyosalpinx. Patient convalesced nicely, although drainage was necessarily kept in lower end of incision for over four weeks, owing to abscess that formed at that point. Discharged November 30, 1893. Good recovery. Patient obliged to go to work at once. September, 1894, presented with threatened hernia.

CASE 110. Mrs. J. M., æt. 40; married; two children. Suffered from severe attacks of pelvic peritonitis, with suppuration; confined to bed several months at a time. An invalid more or less during past five years. Coeliotomy, October 12, 1893. Case of double pyosalpinx, with atrophy of ovary, left side; right enlarged. Quite a number of adhesions. Removal of uterine appendages. Patient made a quick and good recovery. Discharged from private hospital, November 8, 1893.

CASE 111. Mrs. I. De L. Mother died of heart disease and phthisis; otherwise family history good. Patient healthy as a girl. Menstruated at fourteen, never regular, and attended with pain. At twenty fell down stairs, hurting back. Three days after large passage of blood from rectum. Ill for three weeks, and never strong after. In 1883 chair pulled from under her, and worse since. Married twenty-three years, no children, no miscarriages. After last accident noticed tumor, supposed to be connected with uterus. First observed when using syringe taking vaginal douche. Under treatment tumor disappeared for three years. September, 1892, reappeared, attended with very severe pain. Coeliotomy, October 15, 1893. Diseased ovary left side; double pyosalpinx. Removal uterine appendages. Recovery; discharged November 18, 1893. June, 1894, doing very well.

CASE 112. Mrs. H. M., æt. 36. Family history, cancer and tuberculosis. Confined to bed at sixteen with bowel complaint for some time. In 1891 began to flow more than usual, told she was pregnant, but passed term of confinement, when Dr. Rossman, of Ancram, N.Y., told her she had an ovarian tumor, which did not enlarge rapidly. October, 1892, came to hospital, by advice of physician, remaining for a short time. Distinct fluctuation on right side of abdomen, from pelvic region up.

Owing to her feeble condition I did not operate, but drew off about two quarts of fluid. Repeated two or three times during following year; patient gradually improved, and grew stronger, although flow irregular. Diagnosis, double ovarian cyst, possibly associated with a fibroid. Cœliotomy, October 21, 1893. Double multilocular ovarian cyst; fibroid size of cocoanut, connected with fundus of uterus; interstitial. Uterine artery secured; broad ligament tied in sections. No clamp; few adhesions. Operation, one hour and fifty minutes. Fourteenth day lower end wound opened, and quite a portion of pedicle, with two silk ligatures, came away. Some discharge of pus for ten days. Sinus packed. Recovered and discharged on twenty-seventh day. Doing nicely March, 1894.

CASE 114. Miss M. N., æt. 31, family history good. Menstruation very irregular. In 1893 noticed growth in left side of abdomen. Diagnosis of multilocular ovarian cyst. Symptoms increased, and cœliotomy done October 30, 1893. Double ovarian cyst, multilocular. One contained about ten pints of fluid, the other not so much. Large fibroid of uterus; removed by supravaginal hysterectomy; Tait clamp. Good recovery; discharged December 23, 1893. Patient came under observation December, 1894, with sarcoma of the pelvis, and implicating sigmoid flexure. No operation possible.

CASE 115. Mrs. N. C. P. Family history fairly good. Patient always healthy as a girl. Menstruated at thirteen; never regular, but painless. Married three years. One child, fourteen months old. No miscarriages. Menstruated when child was six weeks old, then flow ceased, reappearing April, 1893. Never noticed enlargement of abdomen herself, but physician told her she had some trouble. Thought at first she was pregnant. Never in pain, and in good health all summer. Cœliotomy, November 2, 1893. Small ovarian cyst, left side; tapped with aspirator. Both ovaries removed; right cirrhotic. Recovery. Discharged nineteenth day. In good health June, 1894.

CASE 116. Mrs. S. H., æt. 26. History of two years' illness; well-marked attacks of pelvic peritonitis, pelvic abscess, cystitis, pus in urine, evidence of pyelitis in left kidney, accompanied with vomiting. In New York hospital for several months. Saw her in September, 1893, but she was so feeble and emaciated I did not feel an operation could possibly be done. Under treatment she improved, and cœliotomy done November 2, 1893. Double pyosalpinx, previously diagnosed. This confirmed and appendages removed. Patient recovered at end of second week, when obstruction of bowels presented, partially relieved at times, but she died from exhaustion November 29, 1893. No autopsy. I believe that here was a case of obstruction due to adhesions between the small intestines and the surface of pedicle, possibly peritonitis only.

(To be continued.)

Selected Articles.

THE DIETETIC TREATMENT OF CHRONIC BRIGHT'S DISEASE.*

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THERE are probably few who would be inclined to dispute the statement that the dietetic treatment of chronic Bright's disease is a very important subject, and its importance has been enhanced of late years by the statements so often made that the ideal food for the sufferers from it is milk. In fact, some patients are taught to believe that any other food is poison, and are condemned to nothing but milk for years. I should weary you and occupy you the whole evening were I to quote authorities in support of the doctrine that milk is the best diet for chronic Bright's disease. Merely to mention one. At the tenth International Congress, held at Berlin in 1890, Lépine, in introducing the subject, said he thought that milk was the ideal diet, for, according to him, it replaces the albumin that the patient loses, all its nitrogen is absorbed and used, it does not irritate the kidneys, it is diuretic, and aids the elimination of toxins.

Now, for the past few years, I have been carefully examining the claims of milk as a perfect diet in chronic Bright's disease. Those who recommend it claim that it will do good for the following reasons :

(1) It is said to diminish the amount of albumin. This certainly is not by any means always true, and I have seen many cases showing the falsity of the statement ; for instance, one of my patients passed 8.6 grains of albumin a day upon milk diet, against 9 grains a day on hospital full diet, with sometimes chop and egg added. That is to say, the amount of albumin was virtually the same on both occasions. Another case passed 24.3 grains of albumin a day on milk diet, against 17.8 grains on farinaceous diet, and 23.8 grains on farinaceous with chicken. And I might

*A paper read at Croydon before the South-Eastern Branch of the British Medical Association.

quote other instances. Since I concluded for myself that milk does not always diminish albuminuria, and taught it in the wards, it has been very satisfactory to find others coming to the same view. For instance, Messrs. Ajello and Solaro, two Italian authors, have just published a paper in which they state that in half their patients the administration of milk actually increased the albuminuria, and in some of Grainger Stewart's cases the albumin was much the same on milk as any other diet.

Then we have to remember that if milk did decrease the albuminuria we have no proof that this is of any benefit to the patient. Patients who are very ill with chronic interstitial nephritis may lose only a few grains of albumin a day in the urine. This cannot, of itself, be of much importance, the absorption from the intestine of a very little more albuminous material would, if not lost in some excretion, quickly make up the deficiency. Then, again, people with cyclic albuminuria are often none the worse for it, nor does the loss of albumin in other ways, as by epistaxis or by means of a discharge of pus, produce any symptoms comparable to those of Bright's disease. Indeed, the majority of persons who pass albumin in their urine have not got Bright's disease at all, but are suffering from heart disease, pyuria, specific fevers, etc. Lastly, albuminuria is probably, to a large extent, only a local sign indicating disease of the renal epithelium, and not a general blood condition, and it is from this that danger threatens in Bright's disease. All these considerations indicate that even in a case of Bright's disease, in which the loss of albumin is considerable, this of itself is not really quite so important as is usually thought. Surely if it were, restricting the diet to food containing less albumin than ordinary ought to be harmful to the patient, for not only would he be losing more albumin than in health, but he would be taking in less.

Then, too, we have to bear in mind that even in those cases of chronic Bright's disease in which the change from a milk to a meat diet increases the albuminuria, unless this increase is considerable, it is not so great as is the increased intake of albumin, due to the fact that the meat diet contains more albumin than milk, so that is quite possible for a patient, whose albuminuria is increased by a meat diet, nevertheless to save his body more albumen than he would on a milk diet. The two following cases illustrate this. In one, the change from a milk diet to a full diet led to a daily increase of albumin in the urine of 81 grains. In another the same change caused an increase of 202 grains a day. Now, the hospital milk diet contains three pints of milk, that is to say, 1,076 grains of proteid, the hospital full diet consists of bread 12 oz., meat 60 oz., milk 1 pint, rice pudding $\frac{1}{2}$ lb.; the total proteid in all this is 1,522 grains, so that on a full diet these patients, in whom the change led to an increased daily

excretion of albumin of 81 and 202 grains respectively, were taking in 446 grains more proteid a day on full diet than on milk, so, provided that absorption was equally active in both instances, they actually gained albumin on the full diet in spite of the increased albuminuria.

To sum up, we may say (1) that the amount of albuminuria in chronic Bright's disease is of itself unimportant; (2) that it is often more upon a milk diet than upon others; (3) than even if it is more upon meat than upon milk, nevertheless the increase is usually more than compensated for by the increased intake of albumin.

The next point most frequently urged in favor of a milk diet is that it is easily digestible. My own experience is that often this is directly contrary to fact. I have many a time noticed that patients suffering from chronic Bright's disease who are fed solely upon milk suffer from indigestion, and some, indeed, soon get to positively loathe the milk; which has this further disadvantage, that by its mere bulk it tends to dilate the stomach, and also that it causes constipation. I notice that many writers who, on other grounds, urge milk, agree with me in stating that it frequently causes these disagreeable symptoms.

Then, also, it is often stated that milk is diuretic. I have observed this fact about it, but I have also frequently met with cases in which it is not diuretic, and even in those patients with whom it is the diuresis is often very slight, and not more than the large amount of fluid drunk will explain. And we must remember that many cases of chronic Bright's disease hardly require diuretics, and further, if the patient does at first sight require them, it is always an open question whether it is wise to get rid of fluid by stimulating the kidneys, for it is just those cases in which the inflammatory process is least chronic in which the œdema is greatest, and consequently diuretics seem most called for, but as a general rule it is held to be wiser to rest rather than to stimulate inflamed organs.

The contentions that milk is less irritating to the kidneys than ordinary diet, and that it contains fewer toxins, come entirely from the study and not from the bedside, and there is not a shadow of proof of either of them. Surely, if they were true, all of us who every day of our lives eat ordinary food ought to be in a bad way.

I hope I have convinced you, as I have convinced myself, that none of the reasons that have been urged in favor of giving milk in chronic Bright's disease are valid, and, if so, we will pass on to consider: (1) The effect of different diets upon the excretion of urea and uræmia; (2) the effect on the general health of the patient; (3) on the circulation; (4) any exceptional cases for which milk is suitable, and then we will formulate some general conclusions.

(1) With regard to the excretions of urea, in two of my series of cases more urea was passed upon milk than upon other diets, but both these

cases were going down hill, and as the milk happened to be first tried it is quite possible that the diminution in the excretion of urea simply meant that the patient was nearing his end. In one other case the urea was 133 grains a day less on milk than on farinaceous, and 152 less on milk than on full; among the others who took milk the diet made very little difference on the excretion of urea. Seven patients tried farinaceous diet; one of these also had milk, and 133 grains a day more urea were, as already mentioned, passed upon farinaceous diet than on milk. Five of the seven cases had full diet, in three 96, 19, and 89 grains a day respectively less urea were passed upon farinaceous than upon full diet, and in two cases 25 and 62 grains a day more urea were passed upon farinaceous than upon full. We thus see that with both farinaceous and full diets there is no certain influence upon the excretion of urea. In some of the seven cases a trial was made of adding fish or chicken to a farinaceous diet. One of these passed 212 grains a day of urea on farinaceous diet, against 376 grains a day on farinaceous with fish and two eggs, and 235 grains a day on farinaceous with fish, eggs, and chop. This case shows very well the uncertainty in the excretion of urea produced by adding proteids to a farinaceous diet, and Case No. 4 in my series shows this even more strikingly, for sometimes the addition was associated with an increase and sometimes a diminution in the excretion of urea. Cases 3, 5, and 8 passed more urea when proteids were added to farinaceous diet than they did on farinaceous diet only. We may, I think, therefore say generally, although not constantly, the addition of proteids to farinaceous diet increases the excretion of urea. Six cases had full diet and two of these six had milk, and actually less urea was passed upon full diet than upon milk. The remaining four had farinaceous as well as full diet, and in two the larger amount of urea was passed upon full diet, but two passed less upon full diet than upon farinaceous.

It seems to me, therefore, that we must conclude that the effect of diet upon the excretion of urea in patients suffering from chronic Bright's disease is most uncertain, for it by no means follows—in fact, the reverse is often true—that more proteid in the food means more urea excreted.

As, however, it is now known that uræmia does not depend upon a retention of urea in the body, all this is of little importance compared to the question of the influence of diet upon uræmia. Ten patients, in whom various diets were tried, were watched very carefully. They were all in the hospital; four died, the first from bronchitis, due to fog; the second from cardiac failure, both aortic and mitral valves being diseased; the third had much bronchitis and some pneumonia; and the fourth went steadily down hill, but, curiously, during the greater part of the only period in which he mended a little he was taking full diet. We see,

therefore, that there is no evidence from these cases that a fatal result is brought about by a full diet, or by the addition of meat to a farinaceous diet. Nor do these diets induce uræmia or weaken the patient. My fifth case was very striking in this respect, for, although he had been taking farinaceous diet for nearly four weeks, he developed severe uræmia; the very day the symptoms of this began to abate he was put upon full diet, but they never returned, and he left the hospital greatly relieved. I feel quite sure, and I know from what I have heard that others agree with me, that a milk diet is much more liable to induce uræmia than an ordinary everyday diet, and that, consequently, those who are constantly showing slight uræmic symptoms should partake of the usual food of healthy people.

(2) The next point we have to consider is the effect of diet on the general health of the patient. I have watched my cases closely, and have noticed that patients always feel better on ordinary diet than upon milk; even if they are on farinaceous diet their health is improved if meat is added to it. A common thing is for the patient, while on a milk diet, to feel languid and disinclined for any exertion; he likes to stop in bed; but, alter his diet, and in a few days he is bright and cheerful, desirous of getting up and enjoying his life. Frequently patients beg and implore for some meat, and my experience is that milk or farinaceous diet is most unpopular in chronic Bright's disease. I have often seen, among those patients who have nothing but milk, an absolute loathing of it such as is rarely met with in other maladies. As I have already mentioned, many authors have called attention to this fact. It would be out of place, this afternoon, to give you a long list of quotations, but, merely to take the latest author, Vergely ("Observations sur le régime lacté absolu dans l'albuminurie," Bordeaux, 1893), we find him saying that he most strongly protests against milk in chronic Bright's disease, for it leads to weakness, and causes digestive troubles that prevent all further treatment; that it is a frequent cause of the anæmia met with in patients suffering from chronic Bright's disease; and that it leads to a diminution of weight. With every word of this I agree. Even if the case is obviously going to die, the end is postponed and the patient's last days are made more cheerful by feeding him with ordinary food rather than constantly milk, milk, milk, and nothing but milk.

(3) You will remember that the next heading we proposed to consider was the effect of various diets upon the circulation. Here the satisfactory, but, in medicine, unusual result is seen that clinical experience agrees with *a priori* considerations. When a patient is weak from any disease, beef-tea is a favorite remedy, and an excellent one, too; but it contains very little nourishment; almost all the proteids and fats of the beef remain in the meat, and good beef-tea is little more than a watery solution of the

extractives of meat, which are much more abundant in beef than in mutton, fowl, or fish, although they are present, to some extent, in all meat. What I have just said about beef-tea is true of most of the various extracts which are sold. Now, what is the action of the extractives contained in these extracts? They are powerful cardiac stimulants, acting directly on the muscle of the heart. This has been shown by Mayo, who, by applying beef-tea to the isolated frog's heart, has greatly increased its contractile power; and we all know how, in conditions of great exhaustion, beef-tea, or Valentine's extract, improves the pulse. But I may, in passing, urge what I feel sure is true, that many persons are poisoned by over-doses of these powerful preparations, just the same as I feel sure I have seen the end accelerated by over-dosage of brandy. Any substance which stimulates the heart in moderate doses stops it in large doses. This is a well-known fact with digitalis and with alcohol, and most of us, consequently, give digitalis with caution; but sometimes we hear of cases of which it is said: "I am getting in all the nourishment I can—two tins of Brand's essence a day, besides some beef-tea and brandy," all of which means little or no food, but toxic doses of powerful cardiac stimulants. I cannot help thinking that sometimes we see cases as much done to death by an abuse of our excellent remedies, beef-tea, Valentine, Liebig, and Brand, just as, forty or fifty years ago, patients were killed by the over-zealous use of that excellent remedy, mercury.

However, to return to Bright's disease. From what has been said, it is clear that we should expect a full ordinary diet, containing meat, to act as a cardiac stimulant, and that is exactly what it does. I know nothing more striking than to notice the alteration which takes place when a patient with chronic Bright's disease who has a feeble circulation from cardiac failure, bronchitis, or some other cause, and has been for some time upon milk, is put upon ordinary diet; the pulse becomes fuller, the circulation improves, and the œdema may even diminish. There can, I think, be no doubt whatever that in cases of chronic Bright's disease with a feeble circulation ordinary diet containing meat is an excellent thing, and that the good that is done is due largely to the cardiac stimulant action of the extractives in the meat. For the same reason this is just the class of cases in which a little alcohol is beneficial, for it not only aids the circulation, but improves the digestion.

(4) The consideration of the cases for which a full diet is undesirable naturally follows upon what we have just said, and it follows that a diet composed largely of meat must be given with caution to those patients with chronic Bright's disease in whom the pulse tension is high and the hypertrophied heart is acting powerfully and strongly, for in such cases the chief danger lies not in uræmia, but in hæmorrhage, especially cerebral.

The extractives in the meat, acting as powerful cardiac stimulants, will increase the force of the heart, raise the blood pressure, and greatly add to the liability to cerebral hæmorrhage. In expressing this opinion I am supported by that of Dr. Ralfe, and also by the fact that cerebral hæmorrhage is particularly prone to occur after a full meal. But while in these cases large meat meals should undoubtedly be avoided, we ought not, unless the pulse tension is very high, at once to fly to the other extreme and give nothing but milk, for it must be remembered that the high-tension pulse is in itself probably some evidence of a uræmic condition, which, we have seen, is rather accelerated by milk. For most of such patients it will suffice if we never allow large meals, but order each to be small, but tell the patient to have one or two more in the day than is usual, and also we should advise him to take fish and fowl rather than beef and mutton. Something like this, say. A little fish or bacon with a little toast and tea for breakfast, a sandwich or two at 11 a.m., a few oysters for lunch, with some bread and butter. Afternoon tea. For dinner, chicken with vegetables, bread, and a sweet; and a glass of milk the last thing at night, peptonized if his digestion requires it. Because alcohol has much the same effect on the circulation as meat, the patient should avoid it altogether if the pulse tension is high, for although, no doubt, it to some extent dilates the vessels, and so far tends to diminish blood pressure, yet, on the other hand, by its action as a cardiac stimulant it tends to increase it.

An ordinary diet should be avoided when the patient is the subject of acute Bright's disease. The ætiology of this disease is a subject which time forbids our discussing now, but I think I could convince you that probably some day it will be shown to be a specific fever. We know that one variety of it, namely, the scarlatinal, is part of a specific fever, and the other variety is in its sudden onset, its pyrexia, the close resemblance of the pathological changes in the kidney to those in the lung in pneumonia, and in many other points, very like a specific fever; and just as we have learnt that pneumonia is a specific fever, so some day, perhaps, we shall discover that acute Bright's disease is a specific fever, and we know that febrile processes do best on a slop diet. Therefore, when patients are suffering from acute Bright's disease, I usually prescribe milk or a farinaceous diet.

This short paper, gentlemen, includes the chief points I wanted to lay before you. I have stated them briefly because I am anxious that you should give me the benefit of your experience, and tell me whether it corresponds with mine.—*Quarterly Medical Journal* (England).

Clinical Notes.

A CASE OF TETANUS.*

BY W. B. THISTLE, M.D.,

TORONTO.

THE following history of a case of tetanus may be of interest, simply on account of the rarity of the disease. Apart from that, I am sorry to say that, owing to circumstances over which we have no control, there is nothing new to report in the way of treatment of this dreadful affection.

Parker F—, æt. 8 years, admitted to hospital October 31. Illness began October 26, when he complained at tea time that the bread was too thick, and that he had difficulty in opening his jaws. On attempting to open the mouth widely there was tonic contraction of the muscles of the jaw. That night sleep was restless and starting. He complained of pain in stomach and between the shoulders. Pain much increased on attempting to move. October 27, he was much better, but had painful muscular contractions. October 28, about the same, but spasms were more prolonged and painful. October 30, called in Dr. Wilson, to whom I am indebted for the notes prior to coming into the hospital. Temperature, 100°; pulse, 120; respiration, 24. On attempting examination, severe spasm of the entire muscular system was excited. Complete opisthotonos and trismus. During spasm he could not separate jaws to the slightest degree. October 31, seen with Dr. Wilson, and found the condition about as described, except that spasm was not so severe, owing to the fact that chlorine had been given. The boy was quite bright, and, when quiet, did not suffer much. During examination a small black puncture was found in the centre of the right heel. No appearance of pus, but tissue about the perforation for a very short distance was black and dry. The mother gave the following history of the heel puncture: On the 12th of October he complained that his boot hurt him, and, on examination, a

* Read before Toronto Clinical Society.

punctured wound was found in the centre of the heel, caused by a projecting nail in the heel of his boot. The nail stood up three-eighths of an inch. Next day the wound was red and tender. It was poulticed, and the mother probed it with a needle, but no pus was found. It healed up in a day or two, and there was nothing further until spasm came on on the 26th, as described.

October 31, admitted to Victoria Hospital, in my care. This was done, partly to have quiet and good nursing, and largely because at that time we entertained the idea of procuring the tetanus antitoxin, in which case it would be necessary to have the patient under constant observation. Unfortunately, we were doomed to disappointment. We communicated with the Pasteur Institute, New York; Johns Hopkins, Baltimore; McGill, Montreal; Philadelphia, Boston, but failed to secure the desired antitoxin. There was not a particle to be obtained, so far as we could find out, on the American continent. Failing in this, there was nothing for it but palliative treatment. He was given chlorine and bromide in full doses, and kept quiet in bed. The wound although healed and showing no sign, was excised.

October 31. Temperature, $98\frac{4}{5}^{\circ}$; pulse, 122; respiration, 28; sleeps most of the time; has had several convulsive seizures. Takes milk without much difficulty, and in large quantities. Spasm not sufficient to produce opisthotonos. Muscles remain rigid during intervals.

November 1. Temperature, $99\frac{4}{5}^{\circ}$; pulse, 126; respiration, 32. During day had some twenty spasms, varying from one to twenty minutes in length. Sleeping in intervals. Takes milk freely. Given one-eighth grain morphia to produce sleep; thirty-four ounces of milk taken.

November 2. Temperature, $100\frac{2}{5}^{\circ}$; pulse, 116; respiration, 42. Spasms during the day quite frequently, but for most part they are light. Face is flushed, and during sleep he mutters, sings, or cries out; urine per catheter; control spasm by chloroform.

November 3. Temperature, $102\frac{2}{5}^{\circ}$; pulse, 146; respiration, 48. Slightly delirious; breathing labored. Spasms not very frequent, but severe when they did occur. Muscles at times become quite flaccid. 9 a.m., temperature, $105\frac{2}{5}^{\circ}$; pulse, 180; respiration, 46. Given cold pack. Strychnine sulphate hypodermically. Cries out at times, but spasms are rare and very slight. 4 p.m., temperature, $104\frac{2}{5}^{\circ}$. 6 p.m., temperature, $104\frac{2}{5}^{\circ}$; pulse, 160; faint respiration, 38. Packs given. Spasms about gone; patient unconscious. Not able to swallow all day; cannot retain enemata. Bowels acted upon freely with ol. crotonis; stimulants given hypodermically. Nothing abnormal in urine. Died comatose.

Remarks. It was most unfortunate that no antitoxin could be procured. This was the more surprising because of the frequency of reported

cases recovered under its use in British and continental journals during the last year. Representation should, I think, be made to the Provincial Board of Health to not only keep on hand a supply of diphtheritic, but also tetanus antitoxin. The tetanus bacillus is apparently as ubiquitous as any of its fellows, and who can say when the surroundings and nature of a wound may be such as to shut off oxygen both from within and without, and thus convert a harmless fungus into the extremely virulent poison whose results we see in the symptoms which go to make up the clinical picture of tetanus?

Bearing in mind, too, the fact that the tetanus bacillus does not become virulent unless excluded from oxygen, one sees the necessity, in the case of punctured wounds, of opening them up freely, and of thoroughly cleansing them so that oxygen from without may enter freely, and that inflammatory action in the surrounding tissue may not limit the supply of oxygen derived from the blood.

Progress of Medicine.

MEDICINE

IN CHARGE OF

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SUMMARY OF RECENT LITERATURE ON SERUM TREATMENT.

I. STATISTICS.

The most comprehensive statistics are published by Straus and Roux, 448 cases being reported. They were analyzed carefully in a paper by Martin and Chaillou in the *Annales de l'Institut Pasteur* (see *Medical Chronicle*, p. 275). In the 448 cases the mortality was 24.5 per cent., the average mortality of the three preceding years being 51.71 per cent., a proof that this diminished number depends on a specific action of the drug, and is not due to the mildness of the disease, the authors see in the results at the Hôpital Trousseau during the same time, the mortality there being 60 per cent.

Kossel, who has collected with Ehrlich and Wasserman the statistics of the Koch Institute and some other Berlin hospitals, records, in 233 cases, a mortality of 12.1 per cent.; the cases are not classed according to their severity, but the day of their disease, 1 death occurring in 58 cases in the three first days of the disease. In later days of the disease 23 recovered out of 34, the cases being "very severe"; in 30 cases of larynx, 19 recovered, 12 without operation. The sooner that treatment is commenced the better the result.

Katz's statistics comprise 151 cases, with a mortality of 17.2, the previous average being 37 per cent. According to the most recent communication of Virchow to the Berlin Medical Society, the mortality in 303 cases treated was 13.2 per cent. In 230 cases not treated, for want of material, the mortality was 47.82 per cent.

Koerte, whose statements are very definite and numbers well arranged, reports 132 cases. The mortality was 33.1 per cent. ; formerly 45.1 per cent. The treatment was interrupted for a period, the supply of serum failing ; the mortality rose to 53.8 per cent. Tracheotomy was performed in 42 cases treated. Of these 52.4 per cent. died ; previous average, 77.5 per cent. ; of 108 children under two years old tracheotomied before the new treatment was commenced, 10 recovered ; of 8 cases since the serum treatment was introduced, 3 recovered. Eight cases died, although the treatment was commenced in the three first days of the disease.

v. Ranke records a mortality of 49.2 per cent. for the last few years in the children's hospital in Munich. He has injected 9 cases, and lost 3 ; more recently, 10 cases, 1 dying. Aub observes that the average mortality in Munich is between 8 and 13.8 per cent., and Emmerich explains that in the hospital in question a large number of the cases are complicated with streptococcus, subsequent treatment being consequently scarcely to be expected.

Bürger records 30 cases, with 28 recoveries. Of 5 tracheotomies 1 died ; the average mortality for the last year was 14.5 per cent.

Hilbert reports 11 cases without a death. Sigel reports (*Würt arztl., Corrbll.* 13) 12 cases, 9 cases having tracheotomy necessary.

II. COURSE OF THE DISEASE UNDER THE INFLUENCE OF THE SERUM.

Kossel reports end of fever within 24 hours by crisis and quiet subsidence of the local trouble ; Straus reports "rapidement les fausses membranes se détachent et cessent de se reproduire. La température s'abaisse promptement, et la defervescence s'effectue ordinairement dès le lendemain de l'injection." Schmidt reports rapid improvement of the general condition and local symptoms, and was particularly struck with the vivifying action. Sigel describes this action as being wonderful.

Katz has not seen any special action on the general condition, the membranes or the glandular swelling ; he points out that the membrane did not extend to the larynx in the cases injected ; he observed often remarkably quick defervescence. Bürger reports subsidence of local symptoms, and improvement of the general condition, but in his cases defervescence occurred in two to four days ; in v. Ranke's cases some ended by crisis, some by lysis ; the separation of the membrane took several days. Koerte reports a great improvement in the general condition, but saw little action on the fever or local symptoms. Hilbert reports that the cure occurred in a perfectly normal manner.

III. BY-ACTION AND DELETERIOUS ACTION OF THE SERUM.

Lubinski reports in a two-year-old child, which recovered under serum treatment, a week after, swelling and redness of both ankles. On the

following day a rash like measles, pain in the knee, elbow, and foot ; temperature, 104° F. Complete recovery.

Similar cases are reported by various observers. Scholz reports the case of a boy, $\text{aet. } 10$ years ; ten days after infection urticaria-like rash on hand and foot, and pains in almost all the joints ; no rise in temperature ; similar symptoms in a girl $\text{aet. } 4$ years. Mendel reports hæmorrhages, in one case severe epistaxis. In Cynrim's two cases there was erythema, with pains in the joints, paræsthesia, and general indisposition. With respect to albuminuria some authors state that it is diminished, others that it is not prevented (Börger) ; some have observed severe albuminuria without stating that they consider it due to the serum. Oertel (*Munchener med. Wochenschrift*, No. 48) says that it is an unusual sequel. Straus has seen abscess at the site injected three times. Post-diphtheritic paralysis is said to occur after treatment by the serum (Katz). Kossel believes this is only in cases treated late, or in very severe cases. By far the largest number of observers have no ill-effects to record (Koerte, v. Ranke Hilbert, and others).

IV. THE PROPHYLACTIC ACTION.

Behring states that about 10 in 10,000 protected cases acquire the disease. According to Hilbert about 20 per cent. of the persons exposed to contagion acquire the disease ; he injected 64 as a prophylactic, and, although they were exposed to the disease, only 6.7 acquired it, and the cases were very mild. Seitz made 8 prophylactic injections, and none of the cases became infected. Scholz records two cases which became infected despite the injection. Kossel records three cases of recurrence of the disease in cases treated. The views as to the length of time the protection lasts are very variable, statements being from 8-14 days to 6 weeks (Behring).—L. Larmuth, in *Medical Chronicle*.

THERAPEUTICS

IN CHARGE OF

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TREATMENT OF MORPHINE AND OPIUM POISONING BY REPEATEDLY WASHING OUT THE STOMACH AT SHORT INTERVALS.

Hamburger (Johns Hopkins Hospital *Bulletin*) gives a report of a case successfully treated by this method. The patient was a Chinaman who had taken a very large dose of opium with the intention of committing suicide. The principle of the treatment is based upon the fact that morphine is excreted into the stomach, and, therefore, its frequent removal from the latter organ would assist in its elimination from the system.

[As morphine is completely decomposed by potassium permanganate, we are of the opinion that, in place of washing out the stomach, small doses of potassium permanganate, frequently given, would be preferable.—G.C.]

SODIUM BICARBONATE IN THE TREATMENT OF DISEASES OF THE STOMACH.

M. Dujardin-Beaumetz publishes a paper on this subject, in which he gives the results of his labors, as well as those of a number of other experimenters. The following are the principal conclusions:

- (1) Sodium bicarbonate excites gastric secretion.
- (2) When the dose is small, the increase of acidity is slight and variable.
- (3) When it is a medium dose, the increase of hydrochloric acid is considerable.
- (4) When the dose is large, the period of excitation is prematurely arrested.

(5) The excess of hydrochloric acid varies according to the doses, reaching its maximum with small doses in two hours, with medium doses in three hours, and with large doses in four hours.

(6) The bicarbonate should always be given an hour before eating.

(7) At the beginning of a meal the administration of the bicarbonate appears to suspend the secretion of pepsin. After the meal the exciting action becomes attenuated.

(8) In chemical dyspepsia, in cases of hypochlorhydria, the dose must be given an hour or half an hour before eating, and in hyperchlorhydria during the meal or from three to four hours afterwards.

(9) In muscular dyspepsia, when there is a tendency to stasis or to dilatation of the stomach, the dose should be given during the meal or an hour afterwards.

(10) That the best alkaline waters to be employed in the treatment of diseases of the stomach are those containing sodium bicarbonate.

COCAINE IN CHLOROFORM NARCOSIS.

Rosenberg, at a recent meeting of the Berlin Medical Society, advised the anæsthetizing of the mucous membrane of the nose with a spray of cocaine solution before the administration of chloroform. By this means anæsthesia is more readily induced, and reflex action on the heart is prevented. Cocaine is an antidote to chloroform, and, therefore, its absorption would probably lessen the danger of the latter.

OBSTETRICS

IN CHARGE OF

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BACTERICIDAL PROPERTIES IN THE VAGINAL SECRETION OF PREGNANCY.

B. Kroenig (*Deutsch med. Wochensch.*, No. 43, 1894) claims to have demonstrated that not only is the vaginal secretion in normal pregnancy free from pathological germs, but that it has a distinct germicidal power. Experiments were made in a great number of pregnant women by introducing into the vagina at a considerable period before labor different kinds of germs, and then at stated intervals withdrawing secretion for examination, taking it both from the vaginal entrance and from the fundus vaginæ. The bactericidal power of the vagina was first shown in the case of the innocuous pyocyaneus. Soon the lowest and then the highest part of the vagina were found clear. Further experiments were made with staphylococcus and streptococcus, and it was found that the secretion was equally active whether the vagina contained the "normal secretion" or the so-called pathological secretion described by Doederlein. But Kroenig rejects Doederlein's view that the vaginal secretion described by him as pathological is really so. In these experiments the streptococcus was killed first, the staphylococcus and the pyocyaneus needing almost twice as much time. The vagina was found clear in two days at longest. He further shows that syringing the vagina with antiseptic solutions has the effect of reducing or completely destroying its germicidal powers. Syringing with simple water only slightly weakened them. Hence Kroenig concludes that prophylactic syringing should be given up. It does no good, and much harm. Even in pregnancy with gonorrhœal infection it is best omitted. At the Leipzig clinic they consider that they get better results by the abandonment of syringing than by its adoption; and Kroenig advises that disinfection of the internal genital passages should be abandoned as part of the routine of antiseptic midwifery.—*British Medical Journal*.

ETIOLOGY OF PUERPERAL SEPSIS.

Dr. J. Whitridge Williams, of Baltimore, in discussing puerperal infection before the Obstetrical Society of Philadelphia (*American Gynecological and Obstetrical Journal*), claimed that puerperal sepsis is due to a number of micro-organisms, the most frequent causal organism being the streptococcus pyogenes. Cases infected with staphylococcus aureus are comparatively rare, and usually of moderate severity. He knows of no fatal case following infection with the gonococcus.

In the management of labor cases he believes in subjective antiseptis. He condemns vaginal douches in general practice. In the hospital practice he believes that the cases should be differentiated from a bacteriological standpoint, and those cases having an abnormal vaginal secretion should be douched.

In regard to the treatment of puerperal fever, if mild, he advises the cleaning out of the uterus and the uterine douche, but is indifferent if bichloride of mercury solution, carbolic acid solution, or simple boiled water be used. The fluid acts mechanically, and enough of the antiseptic to do good cannot be used unless continuous irrigation be resorted to.

In conclusion, he believes in the possibility of auto-infection, and in rigid subjective antiseptis in the management of labor. The vaginal douche is condemned in private practice, but is to be used in those hospital cases where there is diseased vaginal secretion.—*Universal Medical Magazine*.

CAUSATION OF THE SACCULATED PREGNANT UTERUS.

By J. Halliday Croons, M.D. (*Edinburgh Medical Journal*, October, 1894):

Four cases of this rare condition are narrated. In the first case a large pediculated ovarian tumor had a hard projection on its lower edge, which pressed over the brim of the pelvis, deeply indenting and dividing the pregnant uterus into an upper and a lower half. The lower segment contained the head and the upper the trunk and extremities. There were no auscultatory sounds, menstruation had been suppressed for over a year, and no trace of a cervix uteri could be found. A sessile ovarian tumor was diagnosed. The cause producing the sacculated condition was the growth of the projection on the tumor *pari passu* with the development of pregnancy.

In the second case the woman had suffered with a large pelvic abscess, which pointed through the vaginal roof. It was drained, and she recovered. Seven months later, when labor came on, no os could be found until an anæsthetic was given, when the cervix was found very high, fixed, and indurated. The abdomen was opened, and a dead child was extracted. In the second week a peritonitis came on, and the patient

died later of pneumonia. In a somewhat similar case reported by Dr. Reid, of Glasgow, he attributed the displacement to adhesions consequent upon an old pelvic inflammation.

In the third case a large tumor, irregular in shape, nearly filled the abdomen and vagina. No cervix uteri could be found, and no auscultatory sounds, except a very faint souffle, and, as the patient had had irregular hæmorrhages, a sessile ovarian tumor was diagnosed. On opening the abdomen a sacculated pregnant uterus was found. The cause of the sacculatation in this case was a fibroid tumor in the anterior uterine wall, which, by impinging on the brim of the pelvis, had prevented the lower uterine segment from rising. This was gently freed, and four days after the woman was delivered with the greatest ease.

The fourth case simulated a sacculated uterus. A large tumor reached to the umbilicus and filled the vagina. On the left the tumor was hard and nodular, but on the right it was quite soft, and a uterine souffle and foetal heart could be detected. This appeared to be a pregnant uterus with fibroids. Cæsarean section was made and an extra-uterine pregnancy was found.

To differentiate a sacculated uterus from a sessile ovarian tumor is almost impossible if the auscultatory sounds are wanting. The abdominal portion of the uterus is more fixed than usual, and is more or less deflected to one or the other side.—*International Medical Magazine*.

OCCIPITO-POSTERIOR POSITIONS.

Dr. Van Peyma, Buffalo, concludes an article on this subject as follows (*Buffalo Medical and Surgical Journal*, March, 1895):

In conclusion, I wish to emphasize the vital importance of recognizing the position in vertex presentations; to insist that, as a rule, cases of occipito-posterior position should be left for the natural forces to effect delivery—forces which, in the vast majority of cases, are not only entirely adequate, but in these cases will accomplish the object better than the most skilled instrumental or manual interference.

Further, I desire to maintain that flexion is essential to natural rotation; that rotation is frequently delayed until the head is very low; that the character of the pains is a very important factor; that with complete anæsthesia the mobility of the head, even when deep in the excavation, is often quite surprising; that in occipito-posterior position the blades of the forceps must be applied well forward to insure a firm hold; and that, after the head reaches the perinæum, extreme flexion must be maintained until the occiput has passed over the perinæum; and, lastly, that no hard and fast rules can be formulated to cover all cases, but that much must necessarily be left to the judgment of the operator, based on a consideration of all the conditions involved.

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF

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THE ORIGIN OF INFLAMMATIONS IN THE URINARY TRACT.

According to Drs. Posner and Lewin (*Berliner klinisch. Wochenschrift*) most purulent inflammations of the urinary organs are caused by micro-organisms introduced from without, in the majority of cases by means of a catheter. Instances, however, occur of severe cystitis and pyelonephritis where no such mode of infection is possible. The supposition has been hitherto that it might be derived from the intestinal canal, and it has been shown that the bacterium coli plays a considerable part. Experimentally, a superficial injury to the large colon has led to cystitis, pointing to a direct passage of bacteria from the intestine to the bladder. The authors endeavored to solve the question by closing up the anus and at the same time ligaturing the urethra. In all cases micro-organisms were found in the urine, while in stoppage of the urethra alone the secretion remained absolutely sterile. The organism found was almost always the same gas-forming bacillus belonging to the same group as the bacterium coli. The question, then, was whether the bacteria passed directly from the distended rectum into the bladder. The possibility of this occurring was present, as well-marked peritonitis has developed from an intestinal obstruction. Further investigation proved this event to be rare, for they found the bacterium coli not only within the bladder, but in the kidneys as well, while the peritoneal fluid between the bladder and bowel was sterile. Posner and Lewin hold, therefore, that under favorable circumstances intestinal micro-organisms can be taken up by the blood and excreted through the kidneys—a process known to be present in certain infectious diseases. They proved this possibility by injecting cultures of the bacillus prodigiosus into the intestine and finding them in the bile, blood, kidneys, and urine. This would furnish an explanation of auto-infection from the intestinal canal, showing itself, not only as an inflammatory affection of the genito-urinary tract, but also in other parts of the body.—*Medical Record.*

CYLINDROIDS.

The diagnostic value of casts in the urine is undoubted, but we must be very careful of our diagnosis. Dr. Thomas, in the *New York Medical Journal*, was the first to draw attention to bodies that resembled casts, but were not, and had little or no pathological significance. Dr. Purdy, in his recent work on Urinalysis, page 195, refers to them as follows :

In addition to the casts described, the urine sometimes contains the so-called cylindroids of Thomas, who first observed them in the urine in a case of scarlatina. These are long, wavy, ribbon-like structures, which often divide and subdivide at their ends with diminishing diameters. These ends may be folded or twisted in corkscrew form. They are pale, colorless, and of greater length than the ordinary casts described, and rarely, if ever, have attached to them any cellular elements whatever. They appear flat, and do not give the impression, to the eye, of being solid structures like true renal casts. It seems not improbable, however, that these cylindroids come from the renal troubles. They occur in nephritis, cystitis, and renal congestion, and may be present in urine that is free from albumin. They are not characteristic of kidney disease, but probably more often caused by irritation of the lower urinary tract, which has, in a measure, extended to the kidneys.

Lastly, it may be stated that casts are sometimes met with in the urine composed of urinary crystals or granular salts. Only those composed of urates and hæmatoidia have thus far been observed, and they are of little practical significance, being only found in the urine of infants, or in cases of gout, renal congestion, etc.

SCLERODERMA.

A case of this rare disease, reported by J. N. Bloom, M.D., Louisville, appears in *Archives of Pediatrics*, January, 1895. This was the third example of the disease the author had seen and exhibited inside of two years.

The patient was a little girl aged eight years, who was apparently in perfect health, apart from the skin lesion.

A small white patch was noticed on the left shoulder about two years ago. It was painless, and has remained so throughout its course. It has steadily increased to its present size, now measuring about eight inches in length, by three and a half inches in width at its widest point. The skin over the affected area is firmly bound down to the deeper structures, and the parchment-like appearance of the plaque is very marked. The part is white and harsh to the touch, resembling scar-tissue. The author called attention to the engagement of the capillaries at the margin of the plaque.

This he considered pathognomonic. Another appearance readily observed is that immediately at the edge of the plaque, extending all the way around, there is an elevated line fully one-tenth of an inch in thickness.

The author considers the prognosis as to life is not at all grave as to recovery—not so grave as was formerly believed. Many cases do recover, even after ten or fifteen years, and the skin becomes again normal.

TURPENTINE IN INCONTINENCE OF URINE.

The unpleasant smell emitted by persons suffering from incontinence of urine can be conveniently covered, according to Dr. Emminghaus, by means of ten-drop doses of turpentine administered in milk or water three times a day. This converts the smell of stale urine into an odor resembling that of violets, as is well known to persons who have taken turpentine. The remedy is perfectly harmless in most cases, and has been given by Professor Emminghaus for many weeks at a time without any inconvenience. It is, however, contraindicated in ulcer of the stomach, gastric catarrh, and nephritis, and also in some persons in whom turpentine tends to upset the digestive functions.—*London Lancet*, 1894, ii., 992.

FISTULA IN ANO.

In doing a radical operation for fistula the following points, according to Dr. J. H. Bacon, should be observed :

(1) Never sever the sphincters at more than one place at the same operation, no matter what the complications may be, otherwise incontinence is sure to follow.

(2) Unless all the channels are followed up and laid open the operation will fail of its purpose.

(3) Fistula resulting from tubercular abscess must not be operated upon if there is sufficient tissue destruction of lung to produce hectic, fever, sweats, etc., unless the fistula is causing severe painful spasms of the sphincters, then it should be divided at any stage.

(4) After laying the fistula tract open the wound must be made to heal from the bottom, and as the cutaneous or mucous side of the wound is better nourished it will throw out a more healthy granulation, that tends to bridge over and close the slower granular surface at the bottom, thus leaving a fistula remaining.

(5) When the fistulous tract is not too complicated it should be dissected out entire, and the wound brought together, beginning at the bottom with continuous catgut sutures and approximating the surfaces in successive layers until the whole wound is closed.—*Northwest Medical Journal*.

PÆDIATRICS AND ORTHOPÆDICS

IN CHARGE OF

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THE ANTITOXIN TREATMENT : ITS RESULTS AND ITS DANGERS.

At the meeting of the New York Academy of Medicine, on April 4th, the treatment of diphtheria by antitoxin was more thoroughly discussed than it has yet been in this country. The bacteriological and statistical sides of the subject were presented by Dr. Hermann M. Biggs, the bacteriologist to the Board of Health, who described the methods he adopted to produce antitoxin in this city. The first serum used was obtained from a horse that was in poor condition and was killed; 4 litres of antitoxic serum were obtained from its blood. Before this quantity was used other horses had been inoculated and were producing serum, so that the city had now a plentiful supply. He reported two series of statistics; one of cases treated at the Willard Parker Hospital for Contagious Diseases, the other of cases treated in tenement houses, principally by the Board of Health officials. The following table will show the statistics of the latter class :

Age.	Cases.	Deaths.	Mortality Per Cent.
5 and under	173	33	19.07
Over 5	82	7	8.53
Total	255	40	15.69

In 252 of these patients the larynx alone was affected; in 116, the pharynx and tonsil; in 57, the pharynx and nose; in 41, the larynx and pharynx; and, in 17, the larynx, pharynx, and nose were involved. There

were 50 mild cases, 76 moderately severe cases, 96 severe cases, while the rest had dangerous complications. If the foregoing table were corrected by deducting 15 moribund cases, it would read :

Age.	Cases.	Deaths.	Mortality Per Cent.
5 and under	161	21	13.04
Over 5	79	4	5.06
Total	240	25	10.40

If the results were tabulated by the day of the disease the figures would be :

Day.	Cases.	Deaths.	Mortality Per Cent.
1st.....	30	2	6.66
2nd.....	77	7	9.09
3rd.....	67	11	16.41
4th.....	31	7	22.60
5th and later.....	46	13	28.25

As evidence has shown that only moderate benefit could be obtained from the use of the antitoxin on or after the fifth day of the disease, the results above obtained are striking. If from this table the moribund cases were omitted, the results would be :

Day.	Cases.	Deaths.	Mortality Per Cent.
1st.....	30	2	6.66
2nd.....	74	4	5.04
3rd.....	62	6	9.68
4th.....	27	3	11.11
5th and later.....	—	—	—

The hospital statistics were less favorable ; 129 cases were treated, of which 83 were nasal or pharyngeal diphtheria, and 46 were pharyngeal

alone. A series of cases treated with a low-grade serum were omitted. There were 31 deaths (24 per cent.), while in the corresponding three months in 1894 there were 146 cases treated and 47 deaths. In 16 intubated cases not treated with antitoxin there were 13 deaths (81 per cent.), while in 24 cases treated with the remedy there was a mortality of only 47.3 per cent. The antitoxin had a marked effect in limiting the spread of the false membrane; and while its use might be followed by cutaneous phenomena, and in one or two cases it had seemed to produce general arthritis, these sequelæ were rare.

The clinical side of the question was discussed by Dr. Joseph E. Winters, Professor of Children's Diseases at the University of the City of New York, who had carefully studied for three months the results obtained at the Willard Parker Hospital. He said that in not a single case had there been the least evidence that the pseudo-membrane was checked, its exfoliation hastened, or the throat free earlier in cases treated by antitoxin than in those treated by ordinary methods. In not a single septic case did the antitoxin make the least impression on the symptoms, or was the toxæmia lessened or relieved, or was there any indication in the character and frequency of the pulse or general condition of the patient to indicate that a remedy for the toxæmia had been administered. The speaker asked why antitoxin should be administered for the relief of laryngeal stenosis due to a diphtheritic pseudo-membrane, for while the latter was confined to the laryngeal mucous membrane there was no toxæmia.

In the statistics regarding intubation Dr. Biggs did not (said Dr. Winters) state that in December, 1894, 8 consecutive cases of intubation recovered without antitoxin. During the same month, at the Foundling Asylum, 12 cases of intubation in 14 cases of laryngeal diphtheria recovered without the use of antitoxin. This had not been equalled by the statistics of intubation cases treated with antitoxin.

Deaths in moribund cases should not be excluded in comparing this method of treatment with the results of former years, for moribund cases were not eliminated from the statistics of the latter. During the first three months of 1894 the death-rate from diphtheria without antitoxin was 32 per cent.; in 1895 it was 28 per cent. But during 1895 many patients were sent to the hospital to be treated with antitoxin who presented no clinical, only bacteriological, evidence of diphtheria; this was not the case in 1894, then only clinical cases were admitted.

The early treatment was insisted upon as a *sine qua non*, yet the table of statistics of the Willard Parker Hospital showed that the first two cases that recovered received the antitoxin on the eighth and sixth day respectively of the disease, while in the next 7 cases the first injection was given on the fourth day, in 2 cases on the fifth day, and in 2 cases on the third

day, and all died. It is not the date of injection that determines the result, but the individual character of the case and nature of the disease. In any case in which there was evidence that the disease was progressive in its course, the latter was not stayed or changed by the antitoxin treatment. The speaker said that Dr. Biggs stated that the first serum used at this hospital was so weak that little could be expected from it, yet it gave better results than the stronger serum. A careful study of the cases showed that there was no relation between the antitoxin treatment and the recoveries. He had seen many bad effects follow the antitoxin; the principal was an anæmia due to the effect of horse serum in dissolving the red corpuscles of man. He designated the condition of many of these children as an antitoxin septicæmia that had similar temperature curves to the cases of surgical septicæmia seen in pre-antisepetic days. It had been stated that the children at the hospital died of pneumonia after they had recovered from diphtheria, but the pneumonia was that of septicæmia. He had seen cases at the hospital die in convulsions with all the symptoms of acute inflammation of the kidneys, but in none of these cases could he get a necropsy.

He opposed the empirical method, whether based on bacteriology or anything else, and there was a factor of individual susceptibility as well as of mildness of disease that must always be considered, whatever treatment should be adopted.

PATHOLOGY

IN CHARGE OF

JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,

Professor of Pathology, University of Toronto and Ontario Veterinary College; Pathologist to Toronto General Hospital and Home for Incurables.

ASSISTED BY

JOHN A. AMYOT, M.B. Tor.,

Demonstrator of Pathology, University of Toronto; Assistant Surgeon to St. Michael's Hospital; Physician to House of Providence.

PRESERVATION OF URINE FOR EXAMINATION.

In order to arrive at the true condition of a sample of urine, the earlier it is examined the better. It is, however, sometimes impossible to obtain it for examination for many hours, or even days, after it has been passed, and it is then often entirely changed. Various substances have been recommended as anti-ferments and preservatives, but all have objectionable features. Accident recently led us to try naphthalin, and the results were as gratifying as they were unexpected. Though the substance is well-nigh insoluble in water, and a crystal added to urine remains unattacked, so far as appearances go, for days, a very minute quantity of it sufficed to preserve a couple of ounces of urine apparently unchanged for several days.—*National Druggist*.

THE ACTION OF LYMPH ON PATHOGENIC MICROBES.

Pagano (*Rif. Med.*, September 7th, 1894) draws attention to the fact that while the bactericidal properties, etc., of most of the humors of the body have been fully investigated, those of lymph have received practically no attention at the hand of bacteriologists. In a preliminary communication he draws a comparison between the bactericidal properties of blood and lymph from the same animal, obtaining the lymph from the thoracic duct of a fasting animal according to the method of Buchner and his pupils. The organisms employed were the *B. typhosus*, anthracis, and the cholera spirillum, a definite quantity of broth culture of these organisms being introduced into tubes containing equal amounts of serum and lymph drawn with antiseptic precautions 24 hours before. After careful mixing to distribute the organisms, plate cultivations were

made immediately and at stated intervals, and these showed in every case that while the serum was distinctly bactericidal the lymph was not only bactericidal, but afforded an excellent medium for bacterial development. In all cases the plates made from the lymph tubes after a few hours were considerably richer in colonies than those taken from the same tubes at the commencement, while the reverse was the case with the serum tubes. These results have an important bearing on the modern theories of immunity, and the author is now engaged in amplifying his researches in this connection.

TREATMENT OF CANCER OF THE STOMACH BY CHLORATE OF SODIUM AND ARISTOL. (HUCHARD.)

The idea of using chlorate of sodium in cancer of the stomach is due to the local beneficial effects of chlorate of potassium upon epithelioma of the upper part of the digestive tract, and upon similar lesions of the skin. The latter salt cannot, however, be administered internally in large and continued doses without producing toxic effects. The chlorate of sodium is hardly toxic even with doses of 10 to 16 grammes (154 to 246 grains), it is more soluble than the potassium salt, and is eliminated more rapidly. It is administered by dissolving in 150 to 200 c.c. of water (about 5 to 7 oz.), and taking a dessert spoonful at a time through the day, in order to exercise a continual local action upon the growth, and also upon the mucous membrane of the stomach. The above dose of 16 grammes ought never to be exceeded, and even this cannot always be tolerated, owing to gastric irritation and vomiting. Patients submitted to this treatment for over a year have been certainly relieved, the appetite improved, pain diminished, vomiting, and even hæmatemesis, ceased; there was also a favorable action upon the secretion of hydrochloric acid, and the patients improved in nutrition. As to the curative properties of the drug, further and long-continued observations are necessary before any statement can be made. In the meantime, it is a considerable gain to relieve the functional symptoms in a disease so incurable as cancer of the stomach.

Dr. Huchard also suggests the use of chlorate of sodium in those forms of dyspepsia attended by diminution of hydrochloric acid, and has obtained some good results. Aristol is another drug which was thought likely to be of service, owing to the good results reported from its local application to epithelioma of the face. Dr. Huchard, however, found that the good effects produced were notably inferior to those obtained from the chlorate of sodium, and only uses it when the stage of ulceration has been reached.—*Medical Chronicle*.

HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

WILLIAM OLDRIGHT, M.A., M.D. Tor.,

Professor of Hygiene in the University of Toronto; Surgeon to St. Michael's Hospital;

AND

E. HERBERT ADAMS, M.D., D.D.S.,

Assistant Demonstrator of Anatomy, University of Toronto; Physician to Victoria Hospital for Sick Children; Clinical Lecturer on Diseases of Children in the Woman's Medical College.

MOUTH HYGIENE.

The care of the patient's teeth is a matter too often neglected by the medical adviser, principally, no doubt, because of the important position the dentist now occupies in relation to every well-to-do family. The vast majority, however, of those seeking medical advice never go near a dentist unless for the purpose of having a root extracted. School children, the inmates of homes, asylums, prisons, and even hospitals, are shamefully neglected in this particular. In most public institutions not only is the tooth brush unknown, but it is almost an impossibility to secure proper cleansing of the teeth even in those taking mercury, for instance, where the danger of salivation is much increased by this neglect. Many institutions have gentlemen of the dental profession connected with their boards, but the teeth are much more apt to be overlooked than any other portion of the economy, and their everyday toilet slighted. It is, indeed, not an uncommon experience to find those who, in health, never omit the morning brush go for days and weeks together without proper mouth-cleaning when they are sick—the time above all others when the brush is most required. Of course, if the patient is too ill, an antiseptic mouth-wash may replace it in a measure. A little volume of popular essays on the care of the teeth and mouth has just been published by Victor C. Bell, A.B., D.D.S., and we mention it here, not because of any new ideas or theories it embodies, nor because of its literary merit or beauty of illustration, for many things are more attractive than casts of irregular teeth and pictures of false sets. Such information as it contains, however, is most important for all to know, and if the advice given were followed many a pain would be spared and many a tooth saved.

The proper care of the teeth of school children is receiving more attention in England than it formerly did, and no little credit is due to Dr.

Cunningham, of Cambridge University, for his efforts in behalf of school-children's teeth, and his contributions on this subject to the Seventh International Congress of Hygiene and Demography, and his essay on oral hygiene, for which he was awarded the gold-medal prize at the International Dental Congress held in Chicago during the World's Fair.

This gentleman says that parents and schoolmasters pay so much more attention to the quality of the child's food than they do to an efficient dental mechanism for mastication because of their ignorance of its importance, and of the advantages, both economic and educational, to be derived from adequate attention to the teeth.

In speaking of tooth powders he says: "The principal action should be mechanical rather than medicinal. The powder should be very finely grained, and should contain no cuttle-fish powder, no powdered oyster-shells, no pumice powder. It should consist of alkaline substances and contain no acid ingredients, nor such as are capable of changing to acid in the mouth. All fermentable substances, such as carbohydrates, are contraindicated." He agrees with Miller, that precipitated chalk should be the basis of a powder, and he also recommends a dash of neutral or slightly alkaline soap. He also considers a tooth soap preferable to tooth powder.

The physician need not be told how great is the necessity to the economy of sound teeth, nor need we enumerate the pathological conditions traceable to their decay; but all must admit and regret the shocking lack of general information upon this important subject, and the need for instruction, especially in the schools. We commend, therefore, the diffusion of knowledge concerning teeth, and if the wood-cuts of artificial upper dentures, interdental splints, cleft palates, obturators, and drills contained in Dr. Bell's book will have the effect of frightening people into an early visit to a dentist, and if infants will gaze upon irregular dentition as depicted upon page 61, and never after suck their thumbs, much will have been gained for the cause of mouth beauty as well as mouth purity.—*New York Medical Record*.

CAUSE OF DEATH.

According to the census of 1890, of every 10,000 deaths in the United States one will be from calculus, thirty-five due to Bright's disease, forty to fevers other than typhoid, fifty-nine to rheumatism, seventy to scrofula, 130 to cancer, 140 to apoplexy, 148 to whooping cough, 160 to dysentery, 190 to meningitis, 220 to scarlatina, 246 to ague, 250 to convulsions, 310 to typhoid fever, 350 to heart trouble, 480 to diphtheria, 880 to diarrhœa, and 1,420 to phthisis.—*Medical Age*.

Editorials.

CANADIAN MEDICAL ASSOCIATION.

THE next meeting of the Canadian Medical Association will be held in Kingston, August 28, 29, and 30. We learn from the secretary, Dr. F. N. G. Starr, 394 Markham street, Toronto, that the prospects for a successful meeting are good. It will be remembered that the meeting last year was held in St. John, N.B., and was said by those present to be one of the most interesting that the association has known. Dr. Bayard, of St. John, the president, is, we are glad to hear, in *good form* (although eighty-two years of age), and hopes to bring to Kingston a good contingent from the maritime provinces.

We understand the physicians of Kingston are taking a lively interest in the meeting, and have already made the necessary arrangements. This will be the second meeting held in the Limestone City, the first having been held in September, 1883, under the presidency of Dr. Mullin, of Hamilton. This meeting was not, in all respects, successful. Many good papers were read, and a fair number of interesting discussions took place, but the numbers were small—about eighty. One very pleasant feature connected with it was the cordial reception given by the physicians of Kingston and vicinity. It is to be hoped that a memory of such kindness and courtesy will induce the majority of those then in attendance to put in an appearance this year; and that a general desire for the well-being of our national medical society will have an influence with other members, as well as non-members, in the same direction. Kingston is a fine old city, with the most pleasant sort of surroundings, and is a most charming place to visit in the month of August.

THE ONTARIO MEDICAL ASSOCIATION.

WE have kept our readers fairly well informed as to the arrangements for the coming meeting of the Ontario Medical Association, which will be held in Toronto, June 5th and 6th. We are told by the enthusiastic and energetic chairman of the Committee on Papers and

Business, Dr. N. A. Powell, of Toronto, that, for the first time in the history of the society, there is a plethora of papers, more being promised than the committee knows what to do with. It is, of course, desirable that many papers be read, and that intelligent discussions on the same ensue. We are requested to ask those who present papers to make them as brief as possible. Ten minutes for each paper will answer very nicely. The committee will even forgive an author who cuts his time down to eight minutes. Its members appreciate fully the beauties of an extensive introduction, the great value of a profuse apology lengthened out in orthodox style, and the sublime beauties of an eloquent peroration ; but, at the same time, they have decided, with a certain amount of grief, to ask the paper-readers to refrain from indulgence in these ornate extras at the coming meeting. In certain cases it will scarcely be possible, even if it were advisable, to complete the presentation of the subject within such narrow time-limits ; but the author of a necessarily long paper will be expected to furnish, if possible, an abstract sufficiently intelligible to call forth discussion, with the understanding that the paper may be published in full in some medical journal. The association does not publish an official report of its transactions, and the rule which at present obtains (in accordance with a resolution passed in 1893) is that each member remains in possession of any paper he reads, and may publish it where he chooses.

LOCAL MEDICAL SOCIETIES.

IN many respects local medical societies, such as those existing in cities, towns, or counties, are more important than the larger associations, whether Canadian in its widest sense, or provincial. Frequent meetings of physicians working side by side do good in various ways. They, of course, do much in the way of keeping doctors abreast of the times in matters purely medical. At the same time they make men broader in their views, and more charitable towards one another. Nothing is more deplorable than the sight, so often witnessed in a small town, of each doctor perpetually endeavoring to *down the other fellow*. While the unholy warfare is going on each party to the contest is frequently growing smaller and meaner from year to year. This sort of thing is, of course, not confined either to small cities or small towns ; but it appears to worst advantage when seen in a village containing only two doctors. Max O'Rell tells us that, if two Scotchmen were left alone on a small island, they would soon form a Caledonian society. If the two doctors could imitate the clanship and brotherhood of the two Highlanders, the benefits accruing to them would be very great, both from a pecuniary and a scientific point of view.

We have in Ontario a number of county societies, some of which are doing excellent work. In certain districts two counties join their forces, as, for instance, Huron and Bruce, with exceedingly good results. We notice with pleasure the formation of a new society under the name of "The Waterloo and Wellington Medical Association," the first meeting of which was held in Berlin, May 6th, as will be seen in our brief report in this issue. There had been a society in the county of Waterloo for three years, and the meeting referred to was the third annual meeting of that society. A number of physicians from Guelph and vicinity attended the meeting, and arrangements for the enlargement were soon made. The first meeting of the new society will be held in Guelph in July. We will watch its career with considerable interest, and only hope that its success will reach our expectations.

INFLUENZA.

WE may have learned much about influenza, both as to its diagnosis and treatment; but we have to acknowledge with due meekness and humility that our knowledge of the disease is still far from definite and perfect. Mr. Malcolm Morris, speaking editorially in *The Practitioner* for April, says: "It must be admitted that the influenza is an *opprobrium medicinæ* of a very positive kind. The experience of five severe epidemics has brought us no nearer to the discovery of any means of dealing effectually with the scourge." Our experience in Canada has taught us pretty much the same thing; yet we think we have now some better ideas about its therapeutics than we had five years ago. Perhaps the best lesson we have learned is that it is a dangerous disease, both as to its immediate and remote effects, especially in certain classes, including the old and those debilitated from any causes.

We have no specific in the shape of medicine—we have almost lost hope of procuring one. We have gained some ground, however. We acknowledge the danger connected with influenza—we are thoroughly afraid of it. The facetious down-town man, who, a few years ago, was so irresistibly funny about the *la grippe* epidemic, has either died, or attended some one or more funerals resulting directly from this trifling, mysterious thing which made him so humorous in days gone by. We all respect influenza now. Most of us accept its attacks in the most kindly spirit, and quietly go to bed with it. We who do so are wise men; nothing is more likely to do us good, and prevent evil after-effects. The busy man, who has no time for rest, but must fight what seems to him a trifling cold, may be alive; but many of his sort have risked too much,

and have passed over to the *great majority*. Unfortunately, we cannot as yet distinguish, with anything like certainty in the earlier stages, between a common cold and severe influenza, whether or not the latter be accompanied with Pfeiffer's bacillus.

Fortunately, we have learned that the administration of antipyrine, and other remedies of the same series, is not devoid of danger. Even certain druggists, stupid and venturesome though they be, are commencing to realize that verdicts of manslaughter may be their reward in the future if they prescribe the antipyretics for their patients without due care. Of course we make no reference to the minority of druggists (we know not how small it is) who do no counter prescribing. In future epidemics of a serious character the present generation is likely to treat influenza with all due respect, and adopt precautions against its numerous disastrous results. In the meantime, we do not wish to discourage bacteriologists or therapeutists in their laudable efforts to discover the nature and the proper treatment of the "scourge."

CIVIC GRANTS TO HOSPITALS.

IT has been the custom for many years for the council of Toronto to pay a certain sum (forty cents per day) for maintenance of each pauper patient admitted into the General Hospital. For a time similar payments were made to St. John's Hospital for Women, St. Michael's Hospital, and Grace Hospital (homœopathic). During the civic year 1894-5, such payments were withheld from St. Michael's and St. John's Hospitals on the ground that they were sectarian institutions. At a meeting of the council held in April, this action was reversed; and, as a consequence, these two hospitals will be placed on the same footing as the Toronto General and Grace Hospitals. This decision is generally acceptable to the profession of Toronto.

Correspondence.

TRAINING OF ASYLUM NURSES.

To the Editor of THE CANADIAN PRACTITIONER :

SIR,—A paragraph published in THE PRACTITIONER for April is very misleading, and in line with a letter written by Dr. Adams to *The Globe* a short time since. The paragraph and letter refer to the training of asylum nurses, and one would suppose that this subject had been overlooked in Ontario. It is the old story of a prophet being without honor in his own country.

As a matter of fact, Rockwood Hospital for the Insane, Kingston, was one of the pioneers in educating asylum nurses, and the Rockwood Training School was founded no less than seven years ago. Our graduates have done admirable work, and many of them are occupying positions of trust and responsibility in Canada and the United States.

Dr. Clark, of Rockwood, with Dr. Cowles, of Boston, Dr. Dewey, of Chicago, and Dr. Curwen, of Warren, was selected by the Medico-Psychological Society of America, two years ago, to draft a scheme of education suitable for all American asylums. It may also be said, Dr. Adams to the contrary, that the scientific work being done in some of the Ontario institutions places them in the front rank.

J. M. FORSTER,

Assistant Superintendent.

Rockwood Hospital, Kingston, April 27, 1895.

Meetings of Medical Societies.

TORONTO CLINICAL SOCIETY.

THE last meeting of the Clinical Society for the season was held in St. George's Hall, May 8th, 1895.

President Dr. Ryerson in the chair.

Members present: Ryerson, Atherton, Meyers, Aikins, King, J. A. Temple, Graham, Brown, J. O. Orr, Baines, Murray, MacDonagh, Little, Greig, Walker, Bingham, Wright, Leslie, and Barrick.

Dr. James E. Graham presented a patient, a young woman aged twenty-six, who had suffered from an attack of pneumonia eight years ago, which was followed by an empyema. She had been coughing up pus ever since then, coughing up as much as a half-pint in twenty-four hours. The other lung was in fairly good condition, somewhat emphysematous and enlarged. The other lung's side was very much contracted. A peculiar feature about the case was that both in front and behind there was a musical bruit with each systole of the heart. What produced it he was not prepared to say. He had another patient, a young man, suffering from the same condition of chest, in which a similar bruit could be heard, whom he presented to the society for examination. He asked the opinion of the Fellows as to the advisability of an operation to relieve the condition in the two cases. In the first case there were exaggerated breath sounds on the upper part of the side affected. Vocal fremitus was absent in the lower portion, and the breathing was somewhat tubular.

Dr. Graham also read the history of the second case.

In October, 1894, the patient was seized with severe pain in the region of the liver in the axillary line. Was treated for abscess of the liver, in New York. Lost flesh. Was troubled with profuse sweating. Two weeks after coughed up considerable matter of a reddish, dirty color. In January, 1895, was admitted to the Toronto General Hospital; temperature ran up to 100°, 102°, 104°, with morning remissions. About two months ago the chest was aspirated, but no pus found. Breathing is now regular, expiration prolonged, more expansion on the left than the right side.

Coughs a great deal, and expectorates up a large amount of foetid matter. No tubercle bacilli are to be found in the sputa, but a good many pus organisms.

In both cases the empyema had opened into the bronchus before he had seen the patients. He thought possibly the bruits might be due to the presence of a cavity filled with air in which the heart sound was echoed. The chests of both patients were examined by the Fellows.

Dr. Aikins asked how long the last case had run. He said about three months ago one of the servants at the General Hospital had come under his care, suffering from an attack of influenza. Pleurisy developed, with the accumulation of a large effusion in the chest. The heart was very much displaced, and there was great difficulty in breathing. Although in the acute stage, as the symptoms were very distressing, assisted by Dr. MacMahon, they aspirated, drawing off about forty ounces of serous fluid. The distress was relieved. The patient improved in almost every way, but there was no diminution of the fluid. About three weeks ago, with a hypodermic needle, pus was discovered and a second aspiration performed, when about thirty ounces were withdrawn. Patient began to cough, and coughed up a considerable quantity of pus. He thought there was now pneumothorax, with pus in the pleural cavity. He asked for the opinion of members as to operative procedure.

Dr. J. A. Temple said that he had one case of chronic empyema in a man, a case of long duration. The man coughed up pus. It was decided to open the chest. Assisted by the late Dr. Fulton, he removed a portion of two ribs, opening into a large pus cavity. The walls of the sac were very thick. They drained and washed out and an excellent recovery followed. He did not think any harm could be done by cutting down upon the cavity.

Dr. J. E. Graham said one difficulty was in locating the pus. It was often difficult in aspirating to strike the cavity, in trying to locate it. In the second case aspiration had been tried, but pus was not discovered.

Dr. W. J. Greig said that it might be well to remember that there was a great deal of thickening of the pleura in these cases, and, for that reason, it was often difficult to aspirate, the needle not penetrating the tough tissue. It often required several attempts to reach the pus.

Dr. E. E. King thought operation was perfectly justifiable in both cases, particularly in the girl's case.

Dr. J. N. E. Brown presented some patches of skin which had been thrown off from a smallpox patient during desquamation. The portions from the soles of the feet were two inches square, the pocks *in situ* being very plainly shown.

Dr. George R. McDonagh read a paper on "Disease of the Middle Turbinate, with Pus in the Ethmoid Cells." The disease usually resulted

from trauma, or from extension from the nasal cavities. On examination there was found to be thickening of the anterior portion of the middle turbinate, and very frequently the presence of granulations. On introducing a probe small slica of bone may be felt. The irritation of the mucous membrane by those leads to the formation of polypi. At the seat of granulation the bone may be found to be cleft, and pus exuding. It causes symptoms of tightness over the bridge of the nose, headache, and neuralgia. There were various reflex phenomena to be observed, which he would not refer to. By trans-illumination the wall of the face over that portion would be found to be opaque. Treatment in the early stage, before the involvement of the ethmoid cells, consisted in the application of chromic acid or the galvano-cautery to the hypertrophied mucous membrane. If distinct cleavage had taken place and polypi present, they must be removed. His plan was to remove the inner half of the bone, and thus open the ethmoid cavity, and wash out antiseptically with pyrozone or iodoform and glycerine.

Dr. Ryerson said, in addition to the symptoms Dr. MacDonagh had mentioned, he had found patients complain of pain and tenderness over the inner angle of the eye, and the appearance of swelling of the bone. In one case he had cut down and trephined. A large quantity of pus and broken-down tissue were thrown off. That was probably in connection with the front of the sinus. The disease seemed to extend into the ethmoid. In another case he had attempted to perforate the ethmoid through the nose. In endeavoring to open it the drill broke off. It was afterwards cast off. The patient did not seem to suffer much inconvenience. With a trochar he had washed out much in the same way as Dr. MacDonagh recommended. He believed these cases were much more common than was generally supposed. Many cases of catarrh and polypi, he believed, were really disease of the ethmoid, and the only treatment that would be beneficial was the one described. He was in the habit of scraping with a curette with malleable handle. He reported a case where he had used pyrozone, where symptoms of constitutional poisoning presented themselves. There were alarming symptoms for a few minutes. The patient felt severe distress in the head, the pulse was irregular and weak, but she soon recovered. He was not sure whether the symptoms were caused by the pyrozone, or from the extension of the disease to the brain cavity. Since then he had been cautious in the use of pyrozone in closed cavities.

Dr. MacDonagh said that when this disease extended into the sphenoidal or frontal sinuses, as it often did, the symptom referred to by Dr. Ryerson was often present. He thought there was no danger in using pyrozone. Where there was free exit made for the pus, there would be an equal chance for the pyrozone to escape.

Dr. Ryerson reported two cases of intraocular tumor. The first case was that of a lighthouse-keeper from the northern part of the province, who had an attack of grippe, and suddenly lost his sight, apparently from detachment of the retina. Examination of the eye showed a distinct round growth or tumor in the left eye, towards the lower portion. It was of a grayish-pink color, and it appeared to be either a growth or a detachment. He was treated for a short time by hypodermics of pilocarpine, as if for detachment. Patient went home for a time, but on returning examination revealed an intraocular tumor. The eye was removed. The tumor was found to occupy half the eye, and was sarcomatous in character. It was now some eight months, and the patient had suffered no further trouble.

The second case was that of a young man, who had been referred to him by a medical friend in New York State. A tumor could be easily detected by the ophthalmoscope. There was some bulging of the sclera. The optic nerve seemed healthy. On examining the orbit nothing could be seen or felt of further growth. The patient did well after the removal of it, making a good recovery. Three months after he came back. There was slight swelling of the orbit. He suffered also from gastric disturbances, indigestion, etc. The patient went home. Dr. Ryerson had since heard from the medical man in attendance that there was a tumor in the neighborhood of the stomach, growing very rapidly. It apparently had some connection, he believed, with the tumor of the eye, occurring, as it did, so soon after it. This was an example of those cases where the recurrence was not in the orbit, where it usually occurs, but in a distant part of the body. It was wise, therefore, in such cases to warn the patient of danger of recurrence.

The election of officers was then proceeded with, Drs. Grasett, Fotheringham, MacDonagh, Leslie, and Wright being elected as members of the council. The other officers were elected by acclamation at the last meeting.

Dr. Ryerson, the retiring President, then expressed his thanks to the secretaries and the Fellows for their assistance during the year, and introduced the President-elect, Dr. James E. Graham.

Dr. Graham thanked the Fellows for the honor they had done him, and expressed the hope that the society would enjoy the same prosperity under his presidency as it had under his successful predecessors.

The society then adjourned until the second Wednesday in October.

TORONTO MEDICAL SOCIETY.

A MEETING of this society was held on May 9th, 1895, Dr. Spence in the chair.

The minutes of the last meeting were read and adopted.

Members present, twenty-six.

Dr. Ross presented a uterus removed by vaginal hysterectomy for cancer.

Dr. J. Clingan reported nine cases of diphtheria in which antitoxin had been used. (See page 332.)

CASE 1. The patient was a boy, *æt.* 13, who had been suffering from osteomyelitis. Fifteen minims had been given as an immunizing dose, but the disease appeared, with membrane on the tonsils and uvula. Temperature rose to 102.4° ; 25 c.c. serum were injected, a rash appearing at the seat of injection. Throat cleared in ten days.

CASE 2 was laryngeal in character, with high temperature and marked asthenia; 25 c.c. injected the third day of the disease. Patient died.

CASE 3 presented no marked constitutional disturbance; 25 c.c. were used. Recovery.

CASE 4. Child $1\frac{1}{2}$ years of age. Tonsils and palate affected. Cervical adenitis. Temperature during day of injection 104° ; day after, $104\frac{4}{5}^{\circ}$. Patient died in four days. Tissue round the seat of the injection became black twelve hours after the injection. Post-mortem showed a membrane on the tonsils, hard and soft palate, and gangrenous ulceration of the superior margin of the superior maxilla, some of the teeth having dropped out.

CASE 5. The patient, a boy, *æt.* 9, had been operated on for suppurating glands of the neck. Received an immunizing injection of 15 c.c., but contracted the disease; 25 c.c. injected, but no appreciable response. Recovery followed, but there was some paralysis of the throat muscles, rendering swallowing difficult.

CASE 6. Disease occurred in a boy who had undergone nephrectomy for sarcoma. There was laryngeal involvement. Antitoxin used, but death followed.

CASE 7 had undergone operation for cleft palate, an asthenic patient. Pharynx, uvula, and hard and soft palate, with membrane. Fatal.

CASE 8. Patient had been treated for five weeks for inanition. No membrane to be seen in the throat. Fatal.

CASE 9. Woman, *æt.* 30. Marked pharyngeal congestion. Involvement of palates, uvula. Membrane seen on all these structures. Adenitis. Erysipelatous rash appeared at the site of the injection. This was followed by a measly rash over body. Recovery.

In all, five died and four recovered. Klebs-Loeffler bacillus found in all; streptococci in some. In most cases there was no constitutional response to injection. Those in which there were laryngeal symptoms were also treated by steam and calomel fumigation. Whiskey and strychnine were also administered. In the pharyngeal sprays of bichloride, pyrozone and peroxide of hydrogen were used. Some of the patients received iron.

Dr. Fenton reported four cases.

CASE 1. Girl, *æt.* 9. Muco-purulent discharge from right nostril. Glands enlarged. Spots of membrane on the tonsils. Croupy cough. Klebs-Loeffler bacillus and staphylococci found; 6 c.c. Behring's serum injected, 3 c.c. in twelve hours afterward. Membrane disappeared in three days. Nostril was irrigated with water.

CASE 2. The specific bacillus was not found, but there was laryngeal involvement. Calomel fumigation was employed. Recovery.

CASE 3. Bacillus not found. Symptoms slight. Recovery.

CASE 4. Almost pure culture of the specific bacilli found. Tonsils nearly covered with membrane; also found on the uvula. Temperature reached 105°. Sponging was employed; 6 c.c. used; 3 c.c. in nine hours. Recovery. Throat cleared in two and a half days.

CASE 1. Dr. McPhedran said in his first case the diagnosis of the disease was only clinical. Patient, girl, *æt.* 6. Membrane disappeared in nine days. There was some adenitis. Recovery uneventful.

CASE 2. Patient, *æt.* 1½ years. Primary laryngeal. No cultures could be obtained. Antitoxin used on the second day; 42 c.c. used during four days. Recovery. Membrane disappeared in a week. Urticarial rash on fifth day, lasting a week.

CASE 3. Child, *æt.* 2½ years. Ill forty-eight hours when seen. Tonsils and uvula were swollen, and showed presence of membrane. Antitoxin commenced on the third day; 33 c.c. used altogether. There was great prostration present. But the deposit soon began to separate and the swelling to subside. Recovery followed. Serum in this case was obtained from New York. In the other cases Behring's was used. Calomel fumigation was tried in the third case. It made both the mother and nurse ill. They were greatly prostrated, and suffered from diarrhoea. The child suffered no such untoward symptoms. Pyrozone was used locally, and iron and chlorate of potash internally.

Dr. Oldright reported three cases.

He had used, he said, the antitoxin in six cases for immunizing those exposed, in addition to using it in the three cases reported.

CASE 1. Clinical diagnosis. Two days after treatment by the serum bacteriological examination made, but negative. Laryngeal obstruction.

Cough, raising yellowish muco-purulent matter. Cervical glands very much swollen. Temperature 102° . Used 12 c.c. Temperature fell and the child recovered. Used iron and chlorate of potash with small doses of bichloride at the same time. Syringed the throat with papoid and soda. Urticarial rash developed, resembling German measles.

CASE 2. Young man, 28. Temperature 104° . Thought that it was follicular tonsillitis. Great pain and nervousness. On seventh day, diagnosis of diphtheria was made. 12 c.c. Roux's antitoxin were injected, and the next day 25 c.c. additional given. There was no fall of the temperature after the first dose, but there was after the second. On the ninth day it rose again to over 102° . 14 c.c. given, temperature fell to 101° . 11 c.c. were given on the tenth day. On the eleventh day temperature fell to 99° . Recovery. Klebs-Loeffler bacilli and streptococci found. The remedies used additional were those used in the preceding case.

CASE 3. Classical symptoms present. Same treatment used as in previous case. Recovery. Small amount of paralysis of the eyeballs followed.

The speaker said that he did not rely wholly on the antitoxin, but he thought it was helpful, the membrane disappearing more quickly. He thought there was an exaggerated fear of the disease. He was not sure but what the cases would have recovered under the ordinary treatment, the cases this year not being so virulent as usual.

Dr. Rogers reported three cases. There had been no bacteriological confirmation of the diagnosis; but as the cases had followed one of diphtheria in the same family, he considered that the cases were almost undoubted.

CASE 1 occurred in a girl aged three. Both nostrils were almost filled with membrane, and it was also found on the left tonsil. Epistaxis was a prominent symptom. The temperature reached 103° . Albumin was found in the urine. 15 c.c. of the serum were given on the third day of the disease. The temperature fell from 105° to 99.2° in forty-eight hours. An urticarial rash appeared. On the third day after the injection no albumin was discoverable in the urine. The membrane began to disappear on the second day after its use.

CASE 2 was a man, *æt.* 35. 5 c.c. had been previously given as a prophylactic measure. The symptoms were not marked. Considerable rise in the pulse followed a second dose given after the disease was established.

CASE 3, in a boy, *æt.* 5, was the most serious. The throat symptoms were well marked, and the constitutional symptoms severe. Second day 12 c.c. were given. A few hours afterward there was a marked improvement. The membrane presented a bleached appearance, and the edges looked ragged. Patient made a good recovery.

In all the cases iron and chloride of potash were used internally, and sprays of sulphurous acid.

Dr. F. N. G. Starr reported a case occurring in a child, *æt.* 2½. When seen by him the child was very much depressed, constitutional symptoms being marked. There appeared to be laryngeal complication, judging from the cough at first; and this became so severe as to necessitate intubation. The tube was coughed up, and also a membranous cast of the larynx. Although the child was exceedingly depressed, not much relief followed. The antitoxin was used in doses of 12 c.c., and also vigorous stimulation. The throat entirely cleared. Meningitis set in as a sequelæ, from which the child succumbed.

Dr. Toole, whose case the above was, reported on the nature of the convulsions. He added that calomel fumigation was used, and also sprays of bichloride.

Dr. Thistle stated that in the cases under his care upon which Dr. Clingan had reported hydrogen peroxide had been freely used. He did not think that, in the cases reported, the antitoxin treatment had effected any particular result.

Dr. McMahan said that he agreed with Dr. Thistle. He extolled highly the use of calomel fumigation in the laryngeal type. He had often noted the unpleasant effects of the fumigation upon the attendants.

Mr. McKenzie, bacteriologist of the Provincial Board of Health, said that antitoxin had been successful in laboratory work in the inoculation of animals. Of course, clinically, there was a difference, because there was often a mixed infection. In the cases reported by Dr. Clingan, he did not consider the amount of serum used was sufficient to have any curative effects. He then gave a comparison of strengths of the various serums on the market.

Dr. Spence thought that the use of iron was of more value than the various antiseptics, or even the antitoxin.

Dr. Wilson said that he had found where there was much adenitis he was disposed to give an unfavorable prognosis. He considered the cases of nasal diphtheria worse than the laryngeal types. He thought that it was wise to use every remedy that was helpful in any way.

Dr. Machell said that there were some forms that seemed most unfavorable from the first, and continued so in spite of all treatment. He referred to one case where the adenitis was so marked in a stout young woman as to cause the neck to swell out to a line from the chin to the chest. Antitoxin nor any other treatment would cure such a case. Another case under his care was admitted to the hospital with croupy symptoms. The patient died very suddenly. Post-mortem showed membrane extending to the lung. Antitoxin had been used.

Dr. McPhedran said that he was inclined to look favorably upon the use of antitoxin. He said it was impossible to keep the throat of an adult antiseptically, let alone that of a child. The antitoxin saved the tissues from the ravages of the diphtheritic poison if used early. But it would not restore tissues already vitiated by the diphtheritic poison. So it should be used early.

Drs. Oldright, Rogers, and Starr also took further part in the discussion.

On motion of the secretary, the discussion was postponed until the next night.

THE WATERLOO AND WELLINGTON MEDICAL ASSOCIATION.

THE third annual meeting of the Waterloo County Medical Association was held in the council chambers, Berlin, Ont., May 6, with Dr. H. G. Lackner, president, in the chair. The medical profession of Wellington have been in correspondence for some time to effect a union, if possible, and form a conjoint association comprising the two counties. A strong deputation from Guelph was present, and the proposition was very carefully considered. It was finally adjusted, and hereafter the society will be known as the Waterloo and Wellington Medical Association.

The president then retired, and the following officers were elected for the ensuing year: President, Dr. D. S. Bowlby, Berlin; first vice-president, Dr. A. McKinnon, Guelph; second vice-president, Dr. Webb, Waterloo; third vice-president, Dr. Cameron, Galt; treasurer, Dr. Howitt, Guelph; corresponding secretary, Dr. G. H. Bowlby, Berlin; recording secretary, Dr. Lindsay, Guelph. Committee: Dr. Lundy, Preston; Dr. Brock, Dr. Lett, Guelph.

Dr. Charles Trow, of Toronto, read an instructive and interesting paper on "Middle Ear Inflammations," which subsequently called for considerable discussion.

The next regular meeting of the Waterloo and Wellington Medical Association will be held in Guelph, the first Friday in July, at which Dr. A. McKinnon has promised to furnish a paper.

After a vote of thanks to Dr. Trow, the meeting adjourned.—*Mail and Empire.*

Book Reviews.

CLINICAL DIAGNOSIS. By Albert Abrams, M.D. (Heidelberg), Professor of Pathology, Cooper Medical College, San Francisco, Cal.; Pathologist to the City and County Hospital, San Francisco; author of "A Synopsis of Morbid Renal Secretions," etc.; President of the San Francisco Medico-Chirurgical Society (1893-94); President of the Alumni Association of Cooper Medical College (1888-89). Third edition, revised and enlarged, illustrated. New York: E. P. Treat, 5 Cooper Union, 1894. Price, \$2.75.

This book, which has been adopted as a text-book in a number of American colleges, is well deserving of the place it holds with the medical profession. It is the most concise and comprehensive work on the subject that we are acquainted with. In this edition the book has received some valuable additions and improvements, among which will be found the most recent methods of diagnosis. The chapters on "The Digestive System" and "The Genito-Urinary System" are particularly to be commended. The book is well gotten up, and the student will find in it all that is desirable on the subject.

MENTAL DISEASES. By Dr. Daniel Clark, Extra-Mural Professor of Mental Diseases, Toronto University, etc. Toronto: William Briggs.

One of the most important additions recently made to the curriculum of the Ontario Medical Council is that of Psychology.

This advance was first made by Toronto University when Dr. Clark was made Professor of Mental Diseases.

As extra-mural professor, Dr. Clark now gives instruction to all the medical students of the city in this important department. It is a matter of great surprise that such a course should not have been established much earlier. As a result, a great number of the older practitioners have not had the advantage of such a training as is now given to every medical student.

In cases of insanity, above all others, an early diagnosis is necessary if a cure is to be hoped for. The general practitioner who first comes in contact with such cases should be able to make a correct diagnosis, so that appropriate treatment may at once be adopted.

In the work before us Dr. Clark has given an excellent description of the principal types of mental diseases, illustrated by cases which have come under his own observation, and in the same practical way he has laid down principles of treatment which ought to be of great service to the general practitioner.

The classification adopted is that recommended by the great majority of modern writers, and is probably the only one feasible in the present state of

our knowledge. We hope, however, in the near future that such advances will be made in the pathology of mental disease that a classification, based on pathology as well as on symptomatology, will become possible.

The chapter on Paronaria is of special interest. The definition, symptoms, course, and management are clearly given, and, as such cases are often met with outside asylums, a full knowledge of the subject is of great importance to the physician.

As stated in the preface, the book is intended for the senior medical student, and the busy physician who may have neither time nor opportunity to study the higher and more intricate branches of psycho-physics. We can recommend the work to the latter as well as the former class, feeling assured that it will prove interesting and instructive.

We would again refer to the treatment of insanity, which is made a prominent feature, and, as it is written by a man of such wide experience as Dr. Clark, it ought to be of great use to the practitioner.

The typography, paper, and binding reflect credit on the publishers.

The following books and pamphlets have been received :

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.
Third series. Vol. xvi. Philadelphia : Printed for the College.

LESSONS IN PHYSICAL DIAGNOSIS. By Alfred L. Loomis, M.D., LL.D.
Tenth edition. Revised and enlarged. New York : William Wood & Co.

CHRONIC INFLAMMATION OF THE SEMINAL VESICLES. By Gardner W. Allen, M.D., of Boston. Read at the annual meeting of the Massachusetts Medical Society, June 13, 1894.

SURGICAL ASEPSIS. By Carl Beck, M.D., Surgeon to St. Mark's Hospital ; the German Poliklinik ; Instructor in Surgery, New York Post-Graduate Medical School, etc. Price, \$1.25 net.

TRANSACTIONS OF THE ANTISEPTIC CLUB. Reported by Albert Abrams, a member of the San Francisco medical profession. Illustrated. Price, \$1 75. New York : E. B. Treat, 5 Cooper Union.

THE TREATMENT OF WOUNDS, ULCERS, AND ABSCESSSES. By W. Watson Cheyne, M.B.Ed., F.R.S., F.R.C.S., Professor of Surgery in King's College ; Surgeon to King's College Hospital and Paddington Green Children's Hospital, London. Philadelphia : Lea Brothers & Co., 1895.

DOSE-BOOK AND MANUAL OF PRESCRIPTION-WRITING, with a list of the official drugs and preparations, and also many of the newer remedies now frequently used, with their doses. By E. Q. Thornton, M.D., Ph.G., Demonstrator of Therapeutics, Jefferson Medical College of Philadelphia ; Acting Assistant-Surgeon United States Marine Hospital Service. Philadelphia : W. B. Saunders, 925 Walnut street, 1895.

THE YEAR-BOOK OF TREATMENT FOR 1895. A Critical Review for Practitioners of Medicine and Surgery. Contributors: Barclay J. Baron, M.B.; Dudley W. Buxton, M.D.; Alfred Cooper, F.R.C.S.; Sidney Coupland, M.D.; George P. Field, M.R.C.S.; Archibald E. Garrod, M.D.; M. Handfield-Jones, M.D.; Reginald Harrison, F.R.C.S.; G. Ernest Herman, M.B.; J. Ernest Lane, F.R.C.S.; Robert Maguire, M.D.; Malcolm Morris, F.R.C.S. Ed.; Edmund Owen, F.R.C.S.; Sidney Phillips, M.D.; Henry Power, F.R.C.S.; Charles Henry Ralfe, M.D., F.R.C.P.; E. S. Reynolds, M.D.; William Rose, M.B.; E. Markham Skerritt, M.D.; Walter G. Smith, M.D.; W. J. Walsham, F.R.C.S.; B Arthur Whitelegge, M.D.; Dawson Williams, M.D. Philadelphia: Lea Brothers & Co., 1895.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Genito-Urinary Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology. By professors and lecturers in the leading medical colleges of the United States, Germany, France, Great Britain, and Canada. Edited by Judson Daland, M.D. (University of Pennsylvania), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania; Assistant Physician to the Hospital of the University of Pennsylvania; Physician to the Philadelphia Hospital; Fellow of the College of Physicians of Philadelphia. J. Mitchell Bruce, M.D., F.R.C.P., London, England, Physician to, and Lecturer on the Principles and Practice of Medicine in, the Charing Cross Hospital. David W. Finlay, M.D., F.R.C.P., Aberdeen, Scotland, Professor of Practice of Medicine in the University of Aberdeen; Physician to, and Lecturer on Clinical Medicine in, the Aberdeen Royal Infirmary; Consulting Physician to the Royal Hospital for Diseases of the Chest, London. Volume I., Fifth series, 1895. Philadelphia: J. B. Lippincott Company, 1895.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX. A work of reference for medical practitioners. Editors and contributors: Prof. Gilbert Darling, M.B., F.R.C.S., Fancourt Barnes, M.D., Prof. Alf. H. Carter, M.D., F.R.C.P., Frederick C. Coley, M.D., William H. Elam, F.R.C.S., E. Hurry Fenwick, F.R.C.S., John Fitzgerald, L.D.S., R.C.S., I., T. Colcott Fox, B.A., F.R.C.P., J. Dundas Grant, M.D., F.R.C.S., Allan McLane Hamilton, M.D., Robert Jones, F.R.C.S., E., W. Arbuthnot Lane, F.R.C.S., H. P. Loomis, M.D., Greville Macdonald, M.D., M.R.C.S., Hector W. G. Mackenzie, M.A., M.D., William Milligan, M.D., Irving S. Haynes, Ph.B., M.D., William H. Pearse, M.D., E., Joseph Priestley, B.A., M.D., D.P.H., John Ridlon, M.A., M.D., Prof. A. W. Mayo Robson, F.R.C.S., A. D. Rockwell, M.D., M. Armand Ruffer, M.A., M.D., F. M. Sandwith, M.D., Prof. Robt. Saundby, M.D., F.R.C.P., James Shaw, M.D., G. E. Shuttleworth, B.A., M.D., W. Ramsay Smith, M.B., B.Sc., William J. Smyly, M.D., F.R.C.S., I., Simeon Snell, F.R.C.S., E., W. Blair Stewart, A.M., M.D., Prof. J. Madison Taylor, M.D., John W. Taylor, F.R.C.S., Prof. W. Gilman Thompson, M.D., W. B. Vanderpoel, M.D., Robt. L. Watkins, M.D., F. W. Koch. 1895; thirteenth year. New York: E. B. Treat, 5 Cooper Union. Chicago: 199 Clark street. Price, \$2.75.

Medical Items.

THE MEDICAL MAN AND THE TROLLEY-CAR.—Very soon doctors will have to enter the army or navy in order to escape peril to life and limb. The thoughtless public is delighted with their new conveyance, but the doctor finds it only a deadly peril. It helps him but little if his business is extensive, leaves him to carry by hand his various impedimenta, gives him long walks where the trolley company, *mirable dictu*, has neglected to seize a street, and long waits where it fails to run frequently, and lets him out only at prominent street corners. He cannot make it wait in grandeur before the doors of his wealthy patients, nor will the motormen and conductors wear his livery. If he drives himself, it wears out his nerves and speedily makes him hysterical or melancholy, with its deadly wire or more deadly dread of collision hanging over the tracks he must cross and recross so often. His neck is sore and stiff from twisting his head to look out of the back window of his carriage, and his eyes take on a divergent squint, which no prism or graduated tenotomy can correct, from his efforts all day to see behind him with one eye while he looks ahead with the other.

At ordinary crossings he must look eight ways at once, and an ingenious scientist has calculated that at complicated crossings, like those in Philadelphia at Ridge Avenue, Spring Garden, and Twelfth streets, or at Twenty-second and Chestnut streets—and there are many such—he will need to make at least twenty-six single and separate observations before crossing, while if we add to this the additional acts of observation necessary in avoiding foot-passengers at the various crossings, and the carts and carriages occupying either side of each trolley track, with those preceding and following the car on each track, with special observations on the nature of the roadway as to holes, uncovered manholes, spots of ice and piles of snow in winter, as to whether the motormen, drivers, and foot-passengers are of imperfect sight or hearing, or imbecile, lame, or disabled from age, we have something like one hundred and two distinct acts of observation needed, and a rapid judgment and decision based upon them, as to whether to go on, back out, or stand still, and this, too, in a time so short that human limitations as to the rapidity of sensory impressions and consequent motor reaction forbid in many cases the required action in the limited time given.

Yet upon this decision and action the safety and life of the driver will depend, to say nothing of the safety of innocent foot-passengers and others less innocent.

And, still further, the scientist estimates that in the usual morning's work

of five hours this rapid observation and decision must be repeated, in more or less complicated conditions, on the average 63.4 times.

Moreover, the trolley-car pursues him after he is safely in his home, and even in his bed—not only with dreams and night terrors of smash-ups and death, but the sleep-banishing, nerve-shattering gong, ringing always and unnecessarily, scares to death what little nervous and mental stability may be left after the day's wretchedness.

Is it any wonder that doctors are short-lived, and that their lives are destined to still greater brevity? Furthermore, our scientist gives us but little hope of any immediate relief, but thinks that in the course of time Nature will, as usual, come to our aid, and bring forth by her handmaid—evolution—from her boundless storehouse new posterior-occipital eyes, one or more, and that possibly, for here he is on uncertain ground, and fears to excite illusory hope, the great central cyclopean eye, rudiments of which still survive, may be furnished up in ten or twelve thousand years to meet the emergency temporarily, for the really serviceable new occipital eye, with sufficient backward projection and a swivel-socket like a lobster's, will take from twelve to twenty million years to evolve successfully. Thus does science ever light up the dark places of life with hope.—*Medical News*.

OBITUARY.

DR. WILLIAM HENRY TAYLOR, M.B.—Dr. W. H. Taylor, of Bradford, died early in May. He received his medical education in the Toronto School of Medicine, and graduated in the University of Toronto in 1868.

J. BARKER PETERS, M.B.—Dr. J. B. Peters was educated in the Medical Faculty of the University of Toronto, and received the degree of M.B. in 1893. During the last year of his course he was resident assistant in the Hospital for Sick Children, Toronto. After graduating he was appointed one of the resident assistants in the Toronto General Hospital, and was, in his capacity, one of the most efficient men the hospital ever knew. In the summer of 1894 he was appointed superintendent of the C.P.R. Hospital at Medicine Hat, N.W.T. He proved himself quite equal to the serious responsibilities he assumed in connection with this appointment, and his prospects seemed very bright. In the month of April he was attacked with typhoid fever, which promised to run its usual course without any serious complications or dangers until May 9, when his brother Dr. George A. Peters, of Toronto, received a telegram, which induced him to start at once for Medicine Hat. Unfortunately he died on the evening of May 11, some hours before the arrival of Dr. George. Dr. Barker Peters was one of the best (in the highest sense of the word) graduates in medicine that we have known in Toronto. He was always honest and painstaking in his work, and ever conscientious and kind in his treatment of patients placed under his care. He was unusually modest and unassuming in his manner, and yet firm and unyielding when occasion required. He had a lovable disposition which was highly appreciated by all who knew him. We knew of no man of his age who possessed a better combination of those high and sterling qualities which are bound to lead to success in a physician or surgeon. We extend our heartfelt sympathy to his bereaved relatives—to her whom he hoped to make his wife in the month of June—to all his loving friends. We have no words to portray the inexpressible sadness connected with such a death.