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MONTREAL MEDICAL JOURNAL.

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A Monthly Record of Medical and Surgical Science.

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THE  
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No. 1.

Original Communications.

ETIOLOGY OF TUBERCULOSIS.\*

BY A. D. BLACKADER, B.A., M.D.

Professor of Pharmacology and Therapeutics and Lecturer on Diseases of Children,  
McGill University; Physician to the Montreal General Hospital.

*Mr. Chairman*—If I understand my commands aright, I am to read a short paper on the etiology of tuberculosis from a clinical standpoint.

At the outset I must offer apologies for the somewhat disjointed character of my remarks, due to their very hurried preparation. I was only informed a few evenings past that the task of opening this part of the discussion had been allotted to me. After the very able papers by the Dean of the Faculty of Comparative Medicine on tuberculosis in cattle as affecting tuberculosis in man, and the paper by Professor Adami on the pathology of tuberculosis, my task becomes a comparatively limited one. My endeavour shall be to place before you, as briefly as possible, the more important facts connected with the origin of tuberculosis as met with by us as physicians.

We are all agreed as to the paramount importance of the tubercle bacilli in the causation of tuberculosis. Yet with many of us the idea of heredity still holds a most important place, as it is felt that no fact in our clinical experience seems less incontrovertible than the hereditary character of tuberculous disease. Careful investigation, however, indicates that this very general experience requires another explanation. Pathologists now tell us that it is the very rare exception to meet with hereditary tubercle, by the term hereditary tubercle

\* Read before the Montreal Medico-Chirurgical Society, March 17th, 1893.

implying the congenital transference of the virus. so that the infant enters the world with the bacilli in its tissues. In the vast majority of cases they say that heredity in tuberculosis signifies only "an excessive hospitality for the tubercular microbe, or a deficient capacity for dealing with him on the part of a too feeble phagocyte." In some cases heredity may signify even less, and if rendered into plain English should read "household poisoning by bacilli."

Up till lately it has indeed been questioned by some pathologists whether the bacillus can actually be transmitted to the fœtus, but in 1891 Birsch-Hirschfeld reported the case of a woman dying of acute general miliary tuberculosis at the end of the seventh month of pregnancy. The autopsy of the fœtus conducted with much care revealed numerous tubercle bacilli in the placenta, and portions of the liver, spleen and kidney transplanted into the abdominal cavity of guinea pigs and rabbits produced undoubted tuberculosis. This was the first well established case of transmission from the mother to the fœtus in utero. Other observers have not been so successful, and clinically we know that symptoms of tuberculosis during the early months of infancy are comparatively rare. Epstein in 200 infants under one year, children of tuberculous parents, could not find signs of tubercle in one. Parrot in a very large out-door clinic had only 219 cases of tuberculosis under two years; of these 23 were infants under one month and 111 were under one year. Probably many of these latter were acquired rather than hereditary tuberculosis, for, at the present day, it would seem impossible to strictly define the two sets of cases. Lately, however, Baumgarten in a strongly written article still supports the view of hereditary transmission, claiming that the bacillus is present in many of the children of tuberculous parents, but asserts that it is latent, and that its future history is dependent in great measure upon the favourable or unfavourable condition of the soil offered by its host. It may in time, he thinks, lose its vitality, or may under depressed conditions of the system take on luxuriant growth. His views, although supported by some writers, are not yet proven, and are, therefore, not generally received.

It may be said, then, that the view generally held at present in regard to the hereditary character of tuberculosis is that

cases of true heredity are extremely rare, but that instances may occur where the mother is suffering from general miliary infection, or from definite tuberculous disease of the genital system.

In reference to acquired infection, there are three paths by which the bacilli may obtain entrance: (1) By inhalation through the respiratory tract. (2) With the food through the alimentary tract. (3) By inoculation. Of these perhaps the most important is the first—by the inhalation of dust containing the bacilli in a dried state. Shortly after his discovery Koch definitely determined that the breath of tuberculous patients contains no bacilli. They are found, however, in immense numbers in the expectoration of those suffering from tubercular disease of the air passages. According to Dr. Prudden's experiments there are about 22,000,000 in the daily sputum of a phthisical patient with an average amount of expectoration. These bacilli appear to have great powers of resistance, and are able to retain their infective powers for a long period of time. While in a moist state they do not appear to escape from the sputum, but when the sputum becomes dry it is readily converted into dust, and the bacilli are then liable to be diffused through the air. Great care should therefore be taken over the expectoration of tuberculous patients, that it be thoroughly disinfected as soon as raised and afterwards destroyed, else the apartments occupied by such patients become infective in time through such dust clinging to carpets, bedroom hangings, etc. Not only may the living apartments become infective, but business offices and railway carriages, and even the dust of the road-side become a source of contagion.

This infection of apartments is well shown by the investigation of Dr. Flick, who localized all the deaths occurring from phthisis in one of the wards of Philadelphia for a preceding period of 25 years. He showed that nearly one-third of the houses in this ward had been infected by previous cases; that in many of these houses the deaths from this disease alone had been quite numerous, and that of the total number of deaths which occurred from phthisis in this ward during the one year 1888, more than one-half occurred in these infected houses. Inasmuch as there were more than twice as many non-infected as infected houses, this proportion is remarkable.

As might be supposed from the broadcast distribution of the bacilli through the air in such myriads, as is permitted by the present lack of care in regard to the disinfection of tuberculous sputum, we note that in the great majority of cases the primary lesion is connected with the respiratory system. Northrup points out the great frequency with which the bronchial glands become the seat of primary infection. Out of 125 post-mortem examinations on bodies of tubercular children, in 68 cases the bronchial glands showed that they had evidently been the part first affected; in 34 cases the dissemination was so general that no definite statement as to the point of primary infection could be made; in 20 cases other parts of the pulmonary system showed evidence of early infection, and in 3 cases the mesenteric glands appeared to be the seat of primary infection. From these cases Northrup concludes that the bacilli enter the respiratory passages with the inspired air, pass through the mucous membrane at any point, and enter the lymph spaces, and thus pass to the glands. Their subsequent career will depend upon the power of the tissues to resist their development.

Dr. Loomis has also shown that even in apparently healthy individuals these bronchial glands may be infected. In 48 post-mortem examinations of persons apparently free from tuberculosis, dying from accident or acute disease, and in whom no other evidence of tubercular infection was found, triturates of the bronchial glands in eight cases developed tuberculosis when injected into the pleura of rabbits. And again, Ziemssen in a recent paper on this subject states that during an epidemic of measles in Munich Dr. Bollinger was frequently able to demonstrate the presence of tubercle bacilli in the lymphatic glands, chiefly of the lungs and mediastinum, in children dying from the attack, although they were said to have been healthy previously, and not to have shown any signs of scrofula.

These facts throw new light on the clinical experience many of us may be familiar with, that after a severe attack of measles tuberculosis occasionally supervenes. The attack of measles has only given the latent tubercle bacilli an opportunity to develop.

In addition to the frequent infection of the bronchial glands

by the bacilli, the predilection of the apices to the occurrence of symptoms indicative of their presence is well recognized. This predilection has been explained on several theories; among others, it has been referred to an imperfect expansion of the apex or to defective circulation. Recently it has been pointed out that the thorax at the apex lacks contracting muscular tissue, and with forced expiration there is a recurrent passage of air into the upper lobes, interfering with the expulsion of any foreign substances that may have entered the bronchial tubes. When they have once entered this part of the lung, Ziemssen thinks they experience an amount of rest, which enables them to penetrate to the sub-epithelial tissues and enter the lymph canals. This penetration generally takes place in the alveoli, where the epithelium is non-ciliated rather than in the ciliated passages of the smaller bronchi.

While in adults inhalation of the bacilli and infection through the respiratory tract is much the most frequent origin of tuberculosis, in children the alimentary tract affords an important path through which the bacilli effect an entrance into the system. The upper part of the tract, owing to the very frequent disorders of the throat, mouth and teeth occasionally becomes the place of primary infection from which the bacilli pass to the cervical and sub maxillary glands, and thence may occasion general infection.

While in healthy individuals the gastric juice has the power of destroying the bacillus, yet in infants it is evidently much less powerful for this purpose than in older children and in adults. This may, we think, be very justly inferred from the greater tendency of infants to be seriously affected by the presence of other micro-organisms in their food. Summer diarrhoea, due principally to this cause, is almost entirely confined to infants under two years of age. Once the bacillus escapes from the acid of the stomach and enters the intestine its action is no longer interfered with owing to the alkaline character of its secretions and contents. Nature relies on the acid gastric juice as its chief barrier to prevent noxious organisms gaining access to the lower part of the canal. When this barrier is broken down by any disturbance of the stomach associated with imperfect secretion of gastric juice, any bacilli entering with the food have an almost unobstructed highway



to the lower and more assailable part of the canal. Entrance appears generally to be effected through the lymph follicles of the ilium and large intestine, while the upper part of the canal almost invariably escapes, owing probably to the more active character of its secretions. In this way the frequency of intestinal and mesenteric tuberculosis in children may be explained. Woodhead states that in 127 children dying of tuberculosis the mesenteric glands were involved in 100.

The bacillus may gain entrance along with the food in many ways, but undoubtedly the most frequent method is in cow's milk. There can be no doubt, at the present day, of the fact that the milk of tuberculous cows may contain the specific bacilli, whether they have a tuberculous affection of the udder or not, although we may admit that the milk is much more liable to be infected if the udder or teats are diseased. The valuable investigations conducted by Prof. Ernst have demonstrated that the milk of tuberculous cows in 55 per cent. of the experiments conveyed tuberculosis when inoculated into the lower animals, even when there was no appearance of any tubercular mammitis.

Tubercular meat may also occasionally be a source of infection when imperfectly cooked, but this must be a comparatively infrequent source.

Other occasional means by which food may become contaminated and thus afford a means of entrance for the bacillus to the intestinal tract will occur to all of you on thinking over the subject.

A third, but fortunately only a very occasional mode of infection is by inoculation. Infection may occur from a wound in the post-mortem room or operating theatre. It has been occasionally recorded as a sequence to the performance of the rite of circumcision when the operator suffered from tuberculosis, and especially if there happened to be any tubercular sore upon the mouth. Vaccination is also a possible, although not a probable, source of the conveyance of the infection.

Under these circumstances, when danger threatens from so many sources, the question arises as to the best means of prophylaxis. Very fortunately for us though many seeds are sown only those that fall on favourable ground survive. The healthy organism appears able to rid itself of many intruders,

provided its powers are not too much taxed by overwhelming numbers. It is when slight resisting power is super-added to the presence of infection that special danger is to be apprehended. The resisting power of the organism against the tubercle bacilli appears to be in great measure dependent upon the following: 1. A healthy condition of the bronchial mucous membrane. 2 The healthy performance of the digestive functions. 3 The vigorous activity of the amœboid cells.

As physicians we should impress upon all our tuberculous patients the necessity that exists for complete disinfection of the infected secretions. The best method is probably by fire, as the bacillus resists ordinary disinfectants. The herds of all public purveyors of milk should be under regular government inspection, and diseased cattle should be isolated and killed. We feel convinced also that much more can be done by us as physicians in the way of prophylaxis by strengthening the barriers that nature raises against the intruders, than can be affected by any or all of our subsequent therapeutic, antiseptic or germicidal measures.

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## FIVE CASES OF ABDOMINAL SECTION AFTER CONFINEMENT.

By G. E. ARMSTRONG.

Lecturer in Surgery in the University of McGill College; Attending Surgeon to the Montreal General and Western Hospitals.

*Mr. President and Gentlemen*—I have recently had to do with three or four cases which in my experience are not common, and my friend Dr. Perrigo has had to do with one of a somewhat similar character. We think that a brief rehearsal of the principal points will be of interest to the Society, and hope that the discussion will be mutually helpful and instructive.

On the 3rd of March last Dr. W. G. Stewart asked me to see with him a lady whom I had myself previously confined three or four times. Her confinements had always been normal, but her recoveries had not always been as satisfactory as could have been desired. She had generally recovered slowly, had usually had a little temperature, and some soreness and tenderness over the uterus and adnexa, but nothing of a serious character.

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\* Read before the Montreal Medico-Chirurgical Society, May 26th, 1893.

Dr. Stewart told me that her last confinement had been a normal one in every respect. She did well afterwards and got up on the tenth day. In brief, she soon afterwards became feverish, complained of some abdominal pain and soreness and went to bed. During the next four weeks she had a very fluctuating temperature, an occasional chill, frequent sweats and sufficient abdominal pain to require poultices and opium to relieve. When I saw her six weeks after confinement she had a temperature of 101.5, pulse of 130, small and weak, and an anxious expression. The abdomen was rounded and for the most part tympanitic. In the left lower abdominal region a distinct but ill-defined mass was easily felt which was tender on pressure. I advised an exploratory incision, which was consented to. Before opening the abdomen I curetted the uterus, swabbed it out with a solution of permanganate of potassium and packed with iodoform gauze. On opening the abdomen the omentum was found adherent to the uterus and tube of the left side. On carefully detaching the adherent margin a pus sac was found, the walls being formed anteriorly by the omentum, below by the left tube and ovary, and above by knuckles of intestine. The pus was carefully removed, the tube and ovary tied off, as well as fully one-third of the omentum, which was infiltrated and thickened. The patient made an excellent recovery.

The tube in this case was brightly injected, swollen to probably twice its normal size, but there was not evident any constriction, and it contained no pus.

CASE II.—This case occurred in the practice of Dr. J. Perrigo, and I am indebted to him for the report of it. Mrs. S., referred to me by Dr. Tatley, March 11, 1893. Chief points of history obtainable were: Confined five weeks previously of her second child; attended by a midwife; labour normal. On seventh day developed severe rigor, with temperature of 104° and quick pulse. From this date rigors frequent and temperature continuously high. Great pelvic pain on left side, moderate abdominal distension; occasional vomiting and diarrhoea; prostration extreme. Examination disclosed a tender abdomen with a large mass in left side of pelvis, a soft patulous

“os,” with uterus adherent to mass. No fluctuation could be detected. Patient could bear very little pressure on the mass, and any attempt to move the uterus caused intense pain. Patient removed to private ward of Western Hospital on March 12th, and abdominal section performed that day. All aseptic precautions taken on the part of operator, assistants, nurses and instruments. The field of operation also made aseptic.

Before doing the section the uterus was curretted and some decomposed placental tissue removed. This was done very gently, but notwithstanding the care taken, the fundus close to the left groin was perforated, so soft were the uterine walls. This was discovered when doing the section. It was quite small and there was no hemorrhage from it. The uterus was irrigated and packed with iodoform gauze. Upon section the right side of pelvis was found healthy. The contents of the left side formed one mass of inflammatory exudation, all the structures being agglutinated together, adherent to the uterus and to the wall of the pelvis. The lower half of the omentum showed patches of gangrene, and in two small points were attached to coils of intestines, and its left and lower border was adherent to the abdominal wall and to the mass in the pelvis. The omentum was first detached and all diseased portions removed. Great care was required in separating the adhesions from the intestines. No injury to intestines. The tube was enlarged to the size of an average adult's wrist and contained small pockets of pus. The tubal canal was obliterated. Ovary of normal size and gangrenous.

The tissues were so friable and softened that it was with difficulty ligatures could be applied without cutting. The thermo-cautery was freely used, but there was not much hæmorrhage. Abdomen flushed and drainage tube used. Before operation patient's temperature was 103 2-5 and pulse 130. Operation was at 4 p.m., was an hour and a half in duration. Temperature at 7 o'clock same evening was 99 3-5, pulse 110. Iodoform gauze removed from uterus day after operation.

From this date up to the evening of the seventh day the temperature ranged from 99° to 100°, respiration 18 to 24,

pulse 96 to 104. Tube removed on second day, no discharge from it, and incision appeared clean and healthy. On evening of seventh day temperature went up to 102°, pulse 120, respiration 26, and had a restless night, although passing flatus freely. On the morning of the eighth day temperature was normal and pulse 88, but in the evening the temperature went up to 103 1-5, pulse 120, respiration 28. The incision was examined and appeared healthy, but the evidence of pus being present was so strong that two of the central sutures were removed and about half a pint of pus evacuated. The opening in the incision caused by the removal of the two sutures was sufficiently large to pass the finger in. A large pus-cavity was discovered which had followed in the tract of the glass drainage tube. The cavity was well irrigated and a large tube inserted, which was cleansed every two hours. From this date the patient convalesced steadily, interrupted at times by her own misconduct.

CASE III.—Presents a history which in some respects is unique. She was attended during her second confinement by Dr. F. R. England. Her confinement was a normal one in every respect, not unduly prolonged, and the child was born alive and well. Dr. England saw her each of the immediately succeeding nine days. Her recovery was all that could be wished. Her temperature and pulse were normal every day. The lochia was present in sufficient quantity and at all times free from odour. Her breasts were always full and the child nursed well. The lacteal secretion was always sufficient for the child. At 4 p.m. on the ninth day after confinement Dr. England paid what he intended to be his last visit. Her temperature and pulse were normal, breasts full, lochia getting scanty and odourless. No abdominal pain or tenderness; it was soft and bore palpation without the slightest discomfort. She lay in bed with her babe upon her arm, well and happy and hopeful. At 10 o'clock that evening the nurse decided that her patient's bowels needed moving. As the baby had a little looseness the nurse thought that an enema was the proper thing to give. The patient objected strongly to this, on the ground that after her first confinement she had had an enema and that she suffered

very great pain for 48 hours afterwards. Her objection, however, was overcome and the enema was given. She was almost immediately seized with intense abdominal pain, with great general tenderness, and vomiting. She had a small stool almost immediately and her bowels did not move afterwards. The vomiting persisted and soon became bilious. Hypodermics of opium were given to relieve the pain. The abdomen became tympanitic, the temperature rose, the pulse became rapid and shabby, the face became drawn and anxious, and it was evident that the patient was suffering from some severe lesion, sufficient to cause a condition of collapse. I saw her with Dr. England during the afternoon of the next day. I thought the history and symptoms pointed to some acute obstruction of the bowels, possibly a volvulus. Her condition was an extremely grave one, and it was easily seen that if anything was to be done more than had already been done, it was of a surgical nature. An exploratory incision was advised, and with that object in view she was removed to a private ward in the Montreal General Hospital. There, with the assistance of Dr. Shepherd, I opened the abdomen by a median incision.

The peritoneal covering of the intestines was congested. I think I am within the limits when I say that two pints of thin, pale yellow odourless pus flowed out. After thorough irrigation the uterine appendages and appendix vermiformis were examined without finding any condition that was thought to bear a causative relation to the peritonitis. The tube and ovaries were tied off and sent to Dr. Adami, whose report upon them I will read. This woman was moribund when the operation was begun and died ten minutes after being removed from the table, or just 24 hours from the giving of the enema and onset of symptoms.

The following is Dr. Adami's report :

PATHOLOGICAL LABORATORY, MCGILL UNIVERSITY,

May 17th, 1893.

The fallopian tubes are rather more capacious than normal; their epithelium is healthy; the peritoneal surface layers are congested and thickened.

The ovaries present no suppurative foci; all that can be said of

them is that they are more fibroid than they ought to be—possess large tortuous vessels and thickened capsules. Evidently, therefore, the peritonitis has not started from the tubes or ovaries in this case.

With kind regards, yours sincerely,

J. GEORGE ADAMI.

Careful search was made for volvulus and hernia, but nothing which could be taken for a cause was found. Thinking that perhaps a small perforation existed along the sigmoid or colon, I asked one of the House Physicians to inject water into the rectum. It entered freely, filled the colon and passed through into the ilium, but none escaped through into the peritoneal cavity. I was obliged to close the abdomen without determining the cause of the pathological condition present. No autopsy could be obtained. From the symptoms of obstruction which were present, and the history of severe pains following the administration of an enema after a previous confinement, I am inclined to think that in some way a volvulus of the sigmoid was produced by the enema which had untwisted, but not before some pyogenic micro-organisms had escaped into the peritoneal cavity. What it was—whether the bacillus coli or one of the proteus group, described by Hauser in 1885, or some other, I cannot say, as unfortunately none of the pus was saved for bacteriological examination.

Dr. Flexner, Associate in Pathology in the Johns Hopkins Hospital, describes in the April number of the *Johns Hopkins Bulletin*, a case of peritonitis occurring in a patient, the subject of chronic disease, thought to be due to the action of the proteus vulgaris. In the same paper Dr. Flexner says that “Foa and Bonome found in the blood and organs of a man dead of supposed hæmorrhagic infarction of the intestine and mesentery and thrombosis of the mesenteric vein, a bacillus which they identified as the proteus vulgaris.

CASE IV.—A patient of my own, was attended for me in my absence by Dr. Spendlove in June, 1892. It was her third confinement; labour easy and rapid; child living and healthy; recovery apparently perfect; no history of any tubal or ovarian trouble. Two months after confinement, while in apparent health and nursing the child, she was suddenly seized with a

severe rigor, rapid pulse, and a temperature of 104, followed by pain and tenderness in the lower abdominal region. She recovered in a week, so far that the pain and tenderness disappeared and pulse and temperature became normal. The lacteal secretion was sufficient for the child, and she resumed her household duties. In fifteen days she had a similar attack, followed in ten days by another; apparently good recovery, only to suffer another recurrence ten days afterwards. The third attack was the most severe of all. In addition to the rigor, high temperature and pain and tenderness, there developed a large, soft, tender mass on each side of the uterus, easily felt by bimanual palpation. I now decided to open the abdomen. On doing so I found a large tubo-ovarian abscess on each side. It was treated in the usual way and a rapid and perfect recovery followed. This patient is now in better health than she has been for years.

I might add a fifth case operated on in the General Hospital some two years ago, followed by recovery.

Case III must be considered separately from the rest. The symptoms were those of obstruction. Dr. Adami, in his report upon the tubes and ovaries, says they can not be called diseased and that we must look elsewhere for a cause of the peritonitis. The cause was apparently a temporary condition, which had ceased to exist at the time of operation. Remembering the symptoms that followed the administration of an enema after the first confinement, and the apparently causative relation of enema and symptoms at the onset of her last illness, I think that probably, as I said before, a volvulus was produced which untwisted before we inspected that region, or perhaps it was untwisted while we were looking at the condition of the uterine appendages on the left side.

The two lessons to be learned from the other four cases are, first, the necessity for greater caution against sepsis when attending confinements or miscarriages. The technique of a case of midwifery should more closely resemble that for a modern surgical operation. The greatest care should be taken to render the hands of the accoucheur aseptic. His coat and



underwear should be above suspicion. The patient's person and clothing and bed should be made as clean as circumstances will permit. A napkin or towel wrung out of a hot solution of corrosive sublimate 1 in 2000 should be used, instead of the old dry napkin, to support the perinæum. The parts should afterwards be frequently washed by the nurse, who should be impressed with the necessity of having clean hands herself.

Secondly, these cases teach us that when septic infection occurs great care should be taken to discriminate between infection from the vagina, torn perinæum, uterine cavity, or torn cervix, and infection extending up and involving the fallopian tubes. The treatment should aim to meet efficiently the pathological condition present. The experience gained from these five cases demonstrates the utility of proper surgical treatment in properly selected cases. No amount of vaginal douching or curretting and irrigating of a septic uterus will save a woman suffering from ruptured pus tubes, with intra-peritoneal inflammation and abscess.

But the history of these cases does show that surgical treatment may not only save their lives, but restore them to perfect health. Thoroughly cleanse and render aseptic the vagina and uterine cavity, and then if there is pus in the abdomen open that cavity, remove the pus and diseased tubes and infected omentum, and make it also as aseptic as possible.

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## THE PREVENTION OF TUBERCULOSIS.

REPORT OF THE SUB-COMMITTEE APPOINTED BY THE MEDICO-CHIRURGICAL SOCIETY TO DRAW UP RULES FOR THE PREVENTION OF THE SPREAD OF TUBERCULOSIS.\*

In one or other of its many forms, whether as consumption or lung phthisis, as abdominal phthisis or tubercular peritonitis, as brain disease, as scrofula, as lupus (of the skin), or again as tubercular joint and bone disease, the condition of tuberculosis carries off more human victims than any four other diseases combined. Slow in its progress as a rule, though at times of frightfully rapid course, it is man's most powerful and relentless enemy.

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\* This Report has been drawn up in conjunction with the Société de Médecine Pratique de Montréal, and the Committee of that Society append their signatures.

But happily it is an enemy whose tactics and whose plan of campaign we have mastered during these last ten years, and if medical men have not yet learnt how to make sure of defeating it when once it has made an entrance into the human body, this at least they have learnt, how to guard against that entrance.

We know now from Koch's great discovery that consumption and all the other forms of tuberculosis are brought about by a minute rod-like body, the Bacillus of Tuberculosis—a minute body which when once it gains a foothold in the lungs or any other part is only with great difficulty killed, for it is very tenacious of life, and by its growth and multiplication, and by the substances that it gives off in the course of its growth it causes the fever, the wasting, and the other symptoms associated with the malady.

The peculiarity of these bacilli is that under ordinary conditions they cannot grow outside of the bodies of warm-blooded animals, such as man and cattle. It follows, therefore, that tuberculosis can only arise from a previous case of tuberculosis, the bacilli that have grown in one body are taken into another and so infect it. This first body may have been that of a human being or, as is often the case, of a domestic animal. For the domestic animals are liable to tuberculosis, and of these the cow is most often the cause of infection, through the fact that its teats and udders not unfrequently become tubercular; consequently the milk may contain the bacilli. Now as the milk is given to children unboiled or unscalded the living bacilli pass into the bowel and there set up abdominal disease.

In those grown up, the lungs are the usual starting point, that is to say, the bacilli are taken in with the air that is breathed. How do they get into the air?

If these bacilli will not grow outside the body they are, on the other hand, as we have remarked, very tenacious of life. They can remain alive and in a dormant state for months, if not for years. And the conditions under which they keep alive are (1) that they are in a dried state; (2) that they are not exposed to a very great heat; (3) that they are not exposed to bright sunlight.

From what we have said it follows that while the bacilli

may pass directly from individual to individual, and the disease be communicated by contact (such contagion is rather rare) the disease may also be set up *by the breathing in of the dust of rooms in which there have been those suffering from consumption.* Where the lungs are affected, as every medical student knows from his work in the hospitals, thousands of those little rods may be brought up with the sputum each time the patient expectorates on the floor, and the sputum dries there, or even if he spits into his handkerchief and this dries, in either case so much dry dust containing live bacilli is produced, and this collecting on the walls or in the dark corners remains for long a source of possible infection for other people.

Let us give some examples which will prove the reality of what we have said :

In Germany the nursing of the sick in hospitals is largely carried on by religious sisterhoods and brotherhoods, and when in Germany out of every hundred deaths in the ordinary population, between twenty-three and twenty-four are due to tuberculosis, it follows that in general hospitals a very large number of the patients must be tuberculous, and that the nurses must necessarily and continually be coming into contact with the disease. Now Dr. Cornet has carefully examined into the statistics of thirty-eight of these nursing confraternities during a period of twenty-five years, examining the causes of over 4000 deaths, and of this number *out of every hundred nurses over sixty-two died from tuberculosis,* or to put the matter in another light, he found that while between eighteen and fifty years of age never less than half of the nurses died of consumption, etc.—at certain ages (35 to 50 for example), nearly three-quarters of them fell victims to this disease. Indeed, as Dr. Cornet showed, a nurse in Germany at twenty-five stands in the same position as a woman of fifty-eight, not a nurse, with regard to prospect of life.

Equally clear evidence of the communicability of phthisis to those living with, or in the same house with phthisical patients is given by Dr. Flick of Philadelphia, who mapped out every death that occurred in a single ward of that city during a period of twenty-five years.

He found that during the period in question less than one-

third of the houses in Fifth ward had been the seat of a death from tuberculosis, but that the infected houses were not scattered irregularly among the others, but were more frequently in groups, just as is the case in epidemics of small pox, typhoid, and diphtheria—an arrangement pointing to the spread of the disease from a patient to those in his immediate neighbourhood. Moreover, a large portion (33 per cent.) of the infected houses presented more than one case, and some had been the seat of seven or eight deaths from this one cause during the five and twenty years. Taking the deaths from tuberculosis in one year alone, Dr. Flick found that in this one ward of Philadelphia considerably more than half the deaths from tuberculosis occurred in those houses which had been affected during the previous twenty-five years. Now inasmuch as there were more than twice as many unaffected houses in this ward as there were affected we should have expected that the deaths would roughly have been twice as many in these unaffected houses. That would have been the proportion had he been dealing with heart or liver disease, for instance. That the proportion is reversed is only to be explained by the infectious nature of the disease.

Tuberculosis in the form of disease of the lungs, the bowels, and of the membranes of the brain is a most frequent cause of death in children. Of every thousand living beings twenty-four die of tuberculosis during the first year of life; indeed during the first two years of life according to one competent observer, out of every hundred deaths nearly forty are due to tuberculosis [this in North Prussia]. That this high death rate is largely brought about by the surroundings of the children, by their living in tubercular homes with consumptive relations, is shown by the statistics of orphan asylums. At Nuremberg, where the orphan asylum has four hundred inmates, only two or three deaths ascribed to tuberculosis have been recorded during eight years. At Paris the results are even more striking. There the *Assistance Publique* adopts all abandoned and orphan children and sends them into the country, finding healthy homes for them among the peasantry. A very large proportion of these orphans are the children of consumptive parents, one or both of whom have died in the

hospitals. Yet examining the statistics of 10,000 such children Dr. Hutinel could only find the insignificant number of ten deaths recorded as being from tubercular affections.

If this be the case—if phthisis be communicable, and if, in a very large proportion of cases, the infection is due to the entrance of bacilli into the air passages in the form of dust—then knowing these facts it is in the power of the phthisical patient and those around him to lessen greatly the chances of other human beings becoming infected through him. And the following rules are worthy of the earnest attention of every right-minded patient and his friends.

It is of most urgent necessity that for the common good they should be carried out with the utmost rigour.

**RULES TO BE OBSERVED AS TO THE SURROUNDINGS OF  
THOSE SUFFERING FROM CONSUMPTION OR TUBER-  
CULOSIS OF THE LUNGS.**

1. For the safety of those around him the patient should only expectorate into cuspidors, and when not bedridden he should carry a pocket spit-cup for use whenever in the house and places of public resort where there is no cuspidor available. A simple bedroom cuspidor can be made out of a cup kept for this purpose alone, and half filled with water.

2. To make sure that their contents do not become dried up and so carried off as dust the cuspidors should contain water. Their contents should be poured daily in the sewer or cesspool (where the bacilli are soon destroyed).

3. Where the patient is up and about, and cannot employ cuspidors, handkerchiefs must be used, which are changed frequently, and placed in boiling water so soon as they are done with.

4. The soiled handkerchiefs and bed linen of such patients must be kept apart from those of healthy persons, and must be well boiled in the process of washing.

5. Unless the position of the patient render this an impossibility (and in this case, for the safety of the family, he should enter a hospital) the patient must sleep alone—preferably in a room by himself.

6. Whether the patient is up and about, or whether he is confined to bed, the following points should be attended to with regard to the bedroom :

(a.) It should be sunny, well ventilated and free from dark corners.

(b.) All articles which collect dust should be removed—

any carpet present should be replaced by floorcloth. The curtains, if any, should be of light washing material and should be washed frequently in boiling water.

(c.) The walls should be whitewashed, or covered by material that can be rubbed by damp bread or damp cloths.

(d.) The floor, and the room in general should never be dry dusted, but should be cleaned by damp cloths, so as to prevent the dust flying about.

(e.) After the death of a patient suffering from phthisis the room and bedding should be most thoroughly disinfected. The walls should be given a new coating of whitewash, or may be repapered only after all previous coats of paper have been well dampened and then scraped off. The bedding and clothing of the deceased should be disinfected in the dry steam disinfector; where possible they should be destroyed.

Lastly, a few words may be said with regard to these rules and their application. Every care is to be taken that in carrying them out the comfort of the patient, both in mind and body be affected to the least possible extent. It must not be thought that they are intended to lead to the cutting off of the patient from his relations and friends. On the contrary, their adoption will prevent the necessity of any such a course, and here we may point out that the general opinion of the medical profession, based upon many observations, is that the breath of consumptive patients is not infectious: *the sputum or expectoration is the great bearer of disease.*

Undoubtedly there are very many persons who are placed continually in the way of becoming infected and who nevertheless keep in good health—but these are persons of strong constitution, of healthy habits of life, and who generally will be found to take plenty of exercise whether willingly or of necessity in the open air. Undoubtedly also, there are very many persons who become affected, but in whom the disease comes to a standstill, thanks to a bettered state of general health. All this, while deserving to be borne in mind does not, however, lessen the necessity for the rigorous application of the above rules, which are intended for the safety and well-being, not so much of the patient himself, or of the robust and vigorous, but of that large mass of the population always on

the borderland of ill-health—of those whose protection should be our first care—the women whose life is spent in the house (with little active open-air exercise), or in confined work-rooms, and the little children—of those also among working-men whose time is largely spent in the company of their fellows in workshops and factories.

There is another side to the question of the prevention of tuberculosis to which we feel it incumbent upon us to refer, even if it be but briefly, namely. the duty of those not affected by the disease, to make the surroundings of themselves and of those dependent on them so healthy that the chances of infection are reduced to the smallest. It is the bounden duty of employers of labour, as it is to their advantage, to see that their work shops are healthy, and that consumptive workmen do not expose their fellow labourers to infection: it is the bounden duty likewise, of heads of schools to exercise extreme caution lest one child suffering from a constant cough, for example, distribute consumption to his or her companions in the school room or dormitory. And in this connection we would point out that inasmuch as the children of consumptive parents would seem especially liable to become affected, so it behooves those having charge of such to be more than ordinarily careful that the general health is kept at a high standard, that they have nourishing food and much open air exercise. In these children the first signs of any of the numerous forms in which tuberculosis may manifest itself (mentioned by us in our first paragraph) must be diligently looked for and guarded against.

While it is well in a town to have an efficient fire brigade, so that if a fire break out, that fire is prevented from spreading, it is even better to have the houses in the town rendered fire proof in order that the danger to the community in this respect be brought down to the lowest possible limit. At present, with reference to consumption and tuberculosis, it must be admitted that our human houses are so inflammable that the establishment of a fire brigade, such as that shown forth in the above rules, is a matter of urgent necessity for the good of the community at large. While here we point out that individual tenements can, as it were, be made relatively fireproof;

it is to the prevention of conflagration—of the spread of tuberculosis when once it has manifested itself—that now we would specially draw attention.

We recognize the difficulty that must always exist among the very poor in the carrying out of rules of health and of prevention of disease. This very fact makes it all the more necessary that, for the well-being of the population at large, the care of the diseased poor be made more widely than ever the peculiar concern of the state and of each district forming a portion of the state. By the erection of special hospitals or by the setting apart of particular wards of general hospitals for the purpose of receiving the consumptive poor much would be done to prevent the spread of this scourge of humanity.

In behalf of the Montreal Medico-Chirurgical Society :

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Copies of these rules may be obtained by applying to the Secretary of the Montreal Medico-Chirurgical Society, 2426 St. Catherine street, Montreal.



## Retrospect Department.

### QUARTERLY RETROSPECT OF SURGERY.

BY FRANCIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.

Surgeon to the Montreal General Hospital: Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

*Intra-cranial Neurectomy.*—Operations for the cure of intractable neuralgia of the fifth nerve have of late become very common and each month brings out a new method of exposing the nerve or the Gasserian ganglion. Ever since Mr. Rose successfully resected this ganglion by means of his very formidable operation, surgeons have been stimulated to reach this point by simpler and safer means. Dr. Frank Hartley, in an able and interesting article (*Annals of Surgery*, May, 1893,) describes a method of exposing the fifth nerve within the skull as follows: "An omega shaped incision is made, having its base at the zygoma and measuring a distance marked by a line drawn from the external angular process of the frontal bone to the tragus of the ear. The curved and rounded portion of this incision reaches as high as the supratemporal ridges, the diameter of the circle being three inches. The skin and deeper tissues are cut in the shape of the Greek letter omega. This incision is carried down to the periosteum of the skull in all portions of the incision except the straight part at its base. The tissues are now retracted and the periosteum divided upon the bone in the same direction as far as the straight part at the base. With a chisel a groove is cut in the bone following the incision in the periosteum. The groove goes to the vitreous plate, except at the upper angle of the rounded portion, where it includes the vitreous plate. A periosteal elevator is here inserted and used as a lever to snap the bone on a line between the ends of the circular portion of the incision. In this way the breakage occurs along the lower portion of the wound, and a flat consisting of skin, muscle, periosteum and bone is thrown down, exposing the dura mater over a circular area of three inches in diameter. The middle meningeal artery is now tied, the dura mater separated from the bone, and the floor of the middle

fossa of the skull exposed. Broad retractors are now used to raise the dura mater with the brain and to expose the foramen rotundum and the foramen ovale." By this means the three divisions of the fifth nerve are exposed, and by pressing upon the dura mater the Gasserian ganglion can be laid bare and destroyed, or the nerves going from it excised. The flap of bone, muscle and skin is now replaced and the various layers sutured. The patient on whom this operation was done was 46 years of age and had suffered for 10 years and had had various operations performed. After this operation, which was performed August 8th, 1891, patient was free from pain, and when last heard of, January, 1893, was quite well. Similar operations have been performed successfully by Krause, McBurney, J. B. Roberts, of Philadelphia, and the author—in all five cases. A grooved chisel similar to those used by cabinet makers is recommended. Two sizes are used, a larger first and then a smaller. A large flat retractor is also necessary for the purpose of holding back the brain.

To reach the ganglion the second and third divisions of the nerve near their foramen should be divided and the proximal ends seized with forceps and the dura mater divided where it covers the nerves at the outer border of the cavernous sinus. The traction on the nerves allows of the exposure of the ganglion, which can be torn out with a hook or scraped with a Volkmann's spoon, or divided with a tenotome. The ganglion lies over the carotid artery.

Dr. ROSWELL PARK, of Buffalo, in an article entitled *Destruction of the Gasserian Ganglion for Trigeminal Neuralgia, with a Report of Two Cases* (*Medical News*, February 18, 1893), describes a method used by Dr. Andrews, of Chicago. The zygoma is exposed by an H shaped incision and sawed in two places, the detached portion is turned down with the masseter muscle. The coronoid process with the insertion of temporal muscle is now exposed and sawn through. Then with the mouth widely open there is sufficient space to allow of the attack on the Gasserian ganglion. After clearing away some fat and connective tissue, and per-

haps ligaturing the internal maxillary artery, we get on the pterygoid plate from which arises the external pterygoid muscle. The muscle is removed and the external plate followed and the foramen ovale reached, through which passes the inferior maxillary nerve. The Gasserian ganglion lies between two layers of dura mater, the lower layer is thin and the upper strong. The ganglion is broken down with a blunt hook. Dr. Park has found hemorrhage so great in these cases that he now ties the common carotid artery as a preliminary measure. Both cases did well, though no report is given after any time had elapsed.

*A New Method of Exposing the Inferior Division of the Fifth Nerve at the Foramen Ovale.*—KROENLEIN (*Archiv. fr. Klin. Chir.*, xliii) proposes that an incision should be made from the angle of the mouth to the tip of the ear, without cutting through the buccinator muscle and mucous membrane of the cheek. The masseter muscle is separated from the parotid, which together with its duct is left undisturbed. The coronoid process is freed and divided obliquely with bone forceps, then lifted up with the temporal muscle. The fat is next cleared away from the cheek and the buccal nerve in its course between the internal and external pterygoid muscles and the inferior dental and lingual nerves brought into view. In order to find the auriculo-temporal nerve the external pterygoid muscle is raised and the internal maxillary artery double ligatured and divided, when the auriculo-temporal nerve with the meningeal artery between its branches is seen. The individual branches of the inferior division of the fifth nerve may be divided at the base of the skull or pulled out. (Quoted in *Sup. Brit. Med. Jour.*, January 14, 1893.)

I have had under my care during the past three or four years six cases of paroxysmal neuralgia of the fifth nerve. In four the superior maxillary was alone involved, and in one the superior maxillary and ophthalmic, and in one the superior maxillary and inferior maxillary. They were all treated by stretching, and in one case the patient had been completely free from pain until death, occurred from other causes 18 months after. One case has now remained quite well for two years.

One in which the infra-orbital and sup.a-orbital was stretched only a couple of months ago has suffered for over 25 years and now has relief for the first time. One case remained well three years, when the pain returned and I this winter again stretched the infra-orbital at her own request, with immediate relief of the pain. One where the superior and inferior maxillary nerves were involved remained well only a few weeks when the pain recurred. This patient was a confirmed cocaine eater. It is my practice to stretch the nerve until I feel it give and then immediately close the wound. In some cases pain continued for a day or two and then left entirely. Stretching should certainly be tried before more severe operative measures are undertaken.

*Bloodless Amputation at the Hip Joint by a New Method—*N. SENN (*Chicago Clin. Rev.*, February, 1893,) describes a new method of bloodless amputation at the hip. The following are the stages: 1. Preliminary dislocation of the head of the femur and clearing the shaft of the bone of all soft tissues down to the proposed line of amputation through an external straight incision requires less time, is attended with less hemorrhage and shock than when this part of the operation is done after circular amputation, as advised by Von Esmarch and others. 2. The external straight incision is the same as Von Langenbeck's incision for resection of the hip-joint, only that it is longer, being about eight inches in length. 3. After dislocation of the femur the soft tissues are tunnelled with an hemostatic forceps, which is entered through the external wound on a level with the trochanter minor, to a point on the inner side of the thigh behind the abductor muscles and about two inches below the ramus of the ischium, where a counter opening two inches in length is made. 4. Bloodless condition of the limb should be secured by elastic compression or by elevation prior to subsequent steps. 5. An elastic tube three-quarters of an inch in diameter and about four feet in length is grasped with the forceps in the centre and drawn through the tunnel made by the forceps. 6. After division of the elastic tube in its centre, the base of the thigh is constricted by drawing firmly and tying the anterior

half in front of the anterior section; while, after the posterior half of the tube has been drawn tightly behind the posterior sections of the soft parts of the thigh, its two ends are crossed and then made to encircle the whole thigh, when the ends are again drawn firmly and tied, or otherwise secured above the anterior constricting tube. 7. Two oval flaps, one long, the other short, should invariably be made in every amputation at the hip-joint. 8. By preference, a long anterior and a short posterior should be made. 9. The transverse sections through the muscles should be somewhat conical in shape, the apex of the cone corresponding to the tunnel made by the enucleation of the upper portion of the shaft of the femur. 10. Resection of the end of the sciatic nerve and ligation of all visible vessels should be practised before the removal of the constricting tubes. 11. The femoral arteries should be secured each by two catgut ligatures placed half an inch apart, that on the proximal side including also the accompanying vein. 12. The posterior constricting tube should be removed first, and all hemorrhages arrested by ligation and compression before the anterior tube is removed. 13. The upper part of the wound, corresponding to the acetabulum, should be drained by an iodoform gauze tampon, and the remaining part of the wound by one or more tubular drains.

*A New and Safe Method of Cutting Oesophageal Strictures.*—Dr. ABBE (*New York Medical Record*, February 25, 1893), after describing the great risks of internal oesophagotomy, recommends a method which he has devised of cutting internally in tough and extensive strictures by means of a string. The principle involved is a commonly experienced one—that even a blunt object like a string, if drawn across a tense tissue, will produce a cut which would not occur if the tissue were flabby. In treating stricture cases, the stricture is made tense by dilating it with a bougie, and the string only cuts as long as the bougie maintains local tension at the site of the stricture. Dr. Abbé relates a case in which this method was successful and describes the procedure as follows: “The obstruction was  $13\frac{1}{2}$  inches from the teeth of the patient, and it was believed that there was considerable pouching above the stricture. Having

first made an opening in the œsophagus at the usual site in the neck, the stomach was next opened after being stitched to the abdominal wall. Passing his finger through the cardiac orifice, he guided a very small conical gum elastic bougie through the opening and passed it upwards into the œsophagus with some force; to the end of the bougie was affixed a piece of heavy braided silk, and this was drawn out through the wound in the neck. The stricture was very dense and about an inch in length, its lower end being about two and a half inches from the stomach. With the thread as a guide he now proceeded to dilate, but found the obstruction too firm to yield. Then with the conical end of the bougie tightly wedged in the stricture, the string was now pulled upward at the neck and the stricture was felt to yield. Three large bougies were passed successively and each was tightly wedged in, whilst the string was see-sawed back and forth. Thus the stretching was kept at its maximum, and the bougies passed with great ease the whole length of the œsophagus. The bleeding was insignificant. After the dilatation he drew up into the œsophagus to a point higher than the stricture a rubber tube the size of one's finger and left it in situ, the lower end coming out of the gastrostomy wound, thus giving patient a chance to rinse her mouth frequently. Nutritious food was introduced into the stomach. At the end of a week the same procedure was again practised with bougie and string under ether, but afterwards without an anæsthetic. After eight weeks the gastric fistula was closed by operation, the œsophageal fistula having closed spontaneously in two weeks. Convalescence of patient was perfect and bougies passed with greatest ease.

*Removal of Pressure Pouch of Œsophagus.*—At a meeting of the London Medical and Chirurgical Society, held April 25, 1893, Mr. BUTLIN read a paper on the above subject. The diverticulum or pouch was removed through a long incision on the anterior border of the left sterno-mastoid muscle. The omo-hyoid and inferior thyroid arteries were divided, the carotid sheath and its contents drawn aside. The pouch was easily found and separated from the surrounding tissues. As the

pouch was cut away the opening into the gullet was closed with fine silk sutures. The patient made a rapid and excellent recovery. Bergmann, of Berlin, had reported a case, and Kocher had operated on two cases successfully. Mr. Butlin said these "pressure pouches" always occurred at the junction of the pharynx with the œsophagus, and in every instance sprang from the posterior aspect of the tube.

*Impacted Peach Stone Removed from Œsophagus through a Wound in the Stomach.*—Dr. J. M. T. FINNEY reports the case (*Johns Hopkins Hosp. Bull.*, 1892,) of a man, aged 49, who accidentally swallowed a peach stone, which became impacted in the œsophagus, 32cm from the incisor teeth. At the end of four days being unable to swallow anything, gastrotomy was performed, and the stone could be easily felt by forceps lying in the œsophagus, but could not be displaced. The opening in stomach being enlarged the whole hand was introduced, but the fingers could hardly touch the stone, so a probang was passed through the stomach into the œsophagus, passed up and by the stone until it came out of the mouth. A sponge was tied to the probang and then it was drawn back, pulling the sponge with it. This proceeding was successful in dislodging the stone from the lateral pouch in which it was, and then it was easily hooked out with the finger. The patient made an excellent recovery for two weeks, when symptoms of mediastinal suppuration began to manifest themselves, and soon there was a large collection of pus between the diaphragm and the left pleural sac. A portion of the eighth rib was excised and the cavity opened and drained. Improvement with rapid recovery followed.

*Chronic Relapsing Appendicitis Treated by Operation.*—Dr. WM. T. BULL reports twelve cases of operation for the above affection (*N. Y. Med. Rec.*, March 18, 1893), with one death. In eight of the cases there was a definite tumour; in four cases there was no tumour, but a tender area. All the cases presented features of chronic inflammation of the appendix with relapses, a condition termed "chronic relapsing appendicitis." These differ from "recurring appendicitis" in that the latter occur at long intervals irregularly, and are

followed by periods of good health. Each attack is really an independent affection. In chronic relapsing appendicitis there is no return to absolute good health; there are always such evidences of disease of the appendix as local pain or discomfort, increased on exertion, tenderness, tumour, and to these symptoms are added frequent exacerbations of acute inflammation. These are the cases in which Dr. Bull advises operation. Eight out of the twelve cases were between 25 and 40, two over 40, two were under 20. All but one were men. Dr. Bull prefers to operate during the period of quiescence, because the danger of sepsis is less, and he also advises early operation before successive attacks of peritonitis conceal and bury the appendix and make the finding of it a difficult and sometimes dangerous proceeding. In operating he prefers the oblique incision, beginning about an inch above the middle of Poupart's ligament and extending upwards and inwards some three or four inches to a point midway between the navel and anterior superior spine of the ilium. The appendix, recognized often by touch alone, is freed and ligated a quarter of an inch from the cæcum. The cæcum should then be wedged about with sponges, the ligature removed from the appendix stump, the mucous coat pulled out with a hook and its lumen constricted with a fine silk ligature. The peritoneal coat is then pushed back from it and the tied tip inverted into the lumen of the cæcum. This inverts the peritoneal coat as well, and three or four Lembert sutures of fine silk through the adjacent wall of the cæcum close the circular opening in a longitudinal direction. When feasible, this is the most perfect way of disposing of the appendix stump. A tent of iodoform gauze should be used only when pus has been encountered. The abdominal wound should be sutured in layers, one each of catgut through the peritoneum and aponeurosis, the other of silkworm gut through all the layers except the peritoneum. Boiled water only was used for irrigation. Mural abscesses occurred in four cases.

Mr. FRED TREVES, in a paper entitled *A Series of Cases of Relapsing Typhlitis Treated by Operation*, reports a series of fourteen cases operated on without a death (*British Medical Jour-*



nal, April 22, 1893). The author still believes that the cæcum may be the origin of the trouble from the lodgement there of faecal masses or a bolus of un digested food, though he adds that in 90 to 95 per cent. of the cases the mischief originates in the appendix. He thinks the affection more common in males than females, and that when the local symptoms persist between the attacks there is great probability that pus is present. Mr. Treves considers the operation to be justifiable when: 1. The attacks have been very numerous. 2. When the attacks are increasing in severity and frequency. 3. When the last attack has been so severe as to place the patient's life in considerable danger. 4. When the constant relapses have reduced the patient to a condition of chronic invalidism and rendered him unfit to follow his occupation. 5. When, owing to the persistence of certain local symptoms during the quiescent period, there is a probability that a collection of pus exists in or about the appendix.

In operating Mr. Treves waits until all the acute symptoms have subsided. The incision should be made about two inches in length, at right angles to a line drawn from the anterior superior spine to the umbilicus two inches from the spine. In dealing with the appendix it is well to make a circular cut through the peritoneum just on the distal side of the spot at which it is intended to sever the process. The peritoneum thus freed is turned back, as is the skin, in a circular amputation. The appendix is tied across at the line of the reflected peritoneum, the mucous membrane which presents is scraped away with a spoon, the muscular wall of the appendix is then brought together with a continuous suture of fine silk over the stump thus formed, the reflected peritoneum is drawn and secured in place by means of a few points of Lembert's sutures. This procedure is only possible in some cases.

*The Radical Cure of Inguinal Hernia in the Male.*—It is interesting to receive the reports of results of operations for the radical cure of hernia after some time has elapsed. Dr. Halsted (*Annals of Surgery, May, 1893*), in an excellent paper on the above subject, gives the results in 82 operations which have

been performed during the last three and a half years in the Johns Hopkins Hospital. There were no deaths. Sixty-four of the cases were males, and 18 females. Of the females, 4 had femoral, 13 inguinal and 1 umbilical hernia. Of the males, 63 had inguinal and 1 femoral hernia. In 58 cases, Halsted's own operation was performed, and in the cases which healed *per primam* not one recurred. The wounds which suppurated were immediately laid open and healed by granulation. There were six recurrences in cases healed by other than Halsted's operation, or where suppuration occurred.

Halsted's operation resembles much that of Bassini—slitting up the old canal and endeavouring to make a new one. In both the cord is transplanted, Halsted placing it between the skin and aponeurosis of the external oblique, and Bassini between the external and internal oblique. Halsted reduces the size of the cord by excising the superfluous veins. Only one row of mattress sutures is used by Halsted, whereas Bassini uses two, to close the canal and keep the cord in position. The following is briefly the method of Halsted:—

Instead of trying to repair the old canal, he makes a new canal and a new internal abdominal ring. The new ring should fit the cord as snugly as possible, and the cord should be as small as possible. The skin incision extends from a point about 5 c.m. above and external to the internal abdominal ring to the spine of the pubes. The subcutaneous tissues are divided so as to expose clearly the aponeurosis of the external abdominal oblique and the external ring. The aponeurosis of the external oblique muscle, the internal oblique and transversalis muscles and transversalis fascia are cut through from the external abdominal ring to a point about 2 c.m. above and external to the internal abdominal ring. The vas deferens and blood vessels of the cord are isolated, and all but one or two of the veins of the cord are excised. The sac is carefully isolated and opened, and its contents replaced. A piece of gauze is used to replace and retain the intestines. With the division of the anterior wall of the spermatic canal the neck of the sac vanishes, and the communication with the abdominal cavity is often

large enough to admit the hand. The peritoneal cavity is closed with a continuous suture or a few mattress sutures, and close to these the superfluous sac is cut away. The cord is pulled out of the wound and hooked aside to facilitate the introduction of the six or eight deep mattress sutures which pass through the aponeurosis of the external oblique and through the internal oblique and transversalis muscles and transversalis fascia on the one side, and through the transversalis fascia and Poupart's ligament and fibres of the aponeurosis of the external abdominal oblique on the other. The two outermost of the deep mattress sutures pass through muscular tissues and the same tissues on both sides of the wound. They are the most important stitches, for the transplanted cord passes between them. The cord is brought out where the muscles are thick and firm, and if at the internal ring they are attenuated the cord is transplanted further out.

Dr. Halsted never resorts to drainage, but closes the external wound by a continuous subcutaneous suture of fine silk. He dwells on the importance of complete asepsis, for in this operation it is most necessary where the tissues are constricted with deep sutures. Great tension, however, should be avoided, for the better the circulation the less the danger of suppuration.

In conclusion, Dr. Halsted says the time has come when one may operate in almost every case of hernia not only without danger to the patient, but with an almost certain prospect of success. With regard to the statistics of mortality: Swensson and Erdman had one death in 106 cases; Macewen, one death in 98 cases; Bassini, 250 cases, with one death; Lucas Championnière, 111 cases, with one death; Kocher, 119 operations, with one death; and Halsted, 82 cases, with no death.

As regards the ultimate results. Macewen failed once in 98 cases, Bassini seven times in 251 cases, and Halsted asserts that no failures have occurred in operations performed by his method, which has now been in use nearly four years. This is hardly a fair conclusion, for if suppuration occurs in his cases he immediately lays open the wound and converts the operation into an open one and classes it as a failure by the open method.

Now, in his operations the cord is always transplanted, and is immediately under the skin. Should suppuration or any severe inflammatory process occur, is the cord in any way injured? In other words, is the lumen of the vas deferens obliterated? This is an important question in these operations.

*Observations on the Mechanical Treatment of Hernia at the Hospital for Ruptured and Crippled of New York.*—Drs. Bull and Coley, in a paper on the above subject (*Annals of Surgery, May, 1893*), give the results of mechanical treatment, and say that a certain number of favourable cases, especially in children and young adults, are cured, and permanently cured, by wearing a truss for a longer or shorter period. It is also true that a large number of cases are found in which the hernia is perfectly controlled by a truss, with but slight, if any, inconvenience to the wearer. In another class of cases the truss fails to hold completely, because of adherent and irreducible omentum; 298 of these cases were observed in one year. The treatment of this class of cases by mechanical means is seldom satisfactory, and in the majority of cases positively harmful, and the authors believe that the majority should be treated by operation.

In speaking of the operative treatment of hernia in children, cases in which a truss is doing no good are advised to be operated upon. Forty cases were operated on by the writers during past fifteen months, and in 38 primary success was obtained. No deaths occurred. Bassini's operation was performed, and kangaroo tendon was used for the buried sutures, and gave the greatest satisfaction. There has been no tendency to form sinuses, as when silk sutures were used, and even where silk-worm gut is employed. In the treatment of the operation wounds no drainage was used, and the results show that it is unnecessary. In addition to the usual antiseptic dressing of iodoform and sublimate gauze, a light plaster of Paris casing was applied from the umbilicus to the ankle; this was left on for eight days, when the wound was dressed for the first time. After the first dressing, a spica bandage is all that is required.

As to the final results of the cases operated on, the time is

too short to give satisfactory statistics; but, so far, there has been but one relapse after Czerny's operation and one after Bassini's. Both failures were due to faulty *technique*; silk sutures were used, and extensive suppuration took place.

The most interesting point of this most valuable paper is the one referring to relapses after radical cure operations. No less than 56 patients who had been operated on by 11 different methods presented themselves for treatment by trusses. These, added to a similar series of cases already reported by Drs. Bull and Milliken (covering observations during three years), made a total of 137 operations for radical cure. The methods mostly employed were those of Heaton (10), Czerny (25), Socin (10), McBurney (39), Macewen (9), and Bryant (2). In 18 the method was unknown. Relapses occurred at periods varying from a few weeks to  $4\frac{1}{2}$  years. These relapses probably represent but a small proportion of the cases operated on. More relapses occurred after treatment by the open method than any other.

The authors remark that the constant appearance of patients in whom the attempt to cure has failed must have the effect of diminishing one's confidence in the ultimate results of the radical cure method employed. The propriety of the operation has been amply justified by its very slight mortality and its incontestible benefit in cases of strangulated and irreducible hernia. Even after relapse, the majority of patients find themselves better than before operation. The conclusion that the authors come to regarding radical cure operations is that all "open methods" of operation after which the wound is left to heal by granulation should be discarded, and the feature of every operation should be rapid *primary union*.

There is very little doubt that permanent cures after radical operations depend chiefly on the success of the operation from an aseptic point of view. The method of operating does not seem to influence the good result so much as the method of union of the incision. If by primary union, then the chance of a permanent cure is very much greater. There are three points in the performance of radical cure for hernia that should be remem-

bered: (1) the necessity of obliterating the sac by excision, &c., (2) the obliteration of canal, and (3) the obtaining of primary union in the wound. Primary union can only be obtained by the strictest aseptic precautions, the avoidance of too great tension in the deep sutures, and closure of the wound without drainage, or 24 hours' drainage at the most. Suppuration, if extensive, is sure to cause a speedy relapse of the hernia.

*Resection of the Intestines in Gangrenous Hernia.*—At a meeting of the Royal Medical and Chirurgical Society, held March 28, 1893, Mr. Kendal Franks read a paper on the above subject. He related the case of a woman, aged 30, who had umbilical hernia of three months duration. It became strangulated September 22, 1891. Thirty hours afterwards herniotomy was performed. The abdomen was found to be full of gelatinous fluid, associated with an ovarian tumour. The loop of the intestine proved to be gangrenous,  $9\frac{1}{2}$  inches were excised and the ends of the intestine immediately united by means of Gily's suture. The abdominal cavity was closed and drained; on the fifth day the bowels moved and recovery was rapid. Five weeks after the abdomen was again opened and an ovarian multilocular semi-solid cyst removed. The sutured intestine was inspected, the union was perfect, the line of union could be felt as a thickening of the gut but could not be detected by the eye. Mr. Franks said gangrenous hernia might be treated on one of two principles, either by resection and immediate suture or by the formation of an artificial anus. The death rate of treatment of gangrenous hernia by artificial anus was 80 per cent. The death rate of immediate suture in gangrenous hernia was 48 per cent. Mr. Franks is strongly of the opinion that gangrenous hernia should be treated by resection and suture, except in those cases which needed immediate treatment and which could not stand a prolonged operation, then an artificial anus should be established. In the discussion which followed Mr. J. Hutchinson, Jr., advocated immediate resection, not through the hernia wound, but through a median incision, and then suturing the two ends by a continuous suture through the mucous membrane and a Lembert's suture of fine silk for the rest of the wall.

Mr. Bowlby said that from statistics gathered from St. Bartholomew's, Guy's and St. Thomas' Hospitals by Mr. Berry for a period of ten years it appeared that the mortality from all cases of strangulated hernia operated on was 44 per cent. in 946 cases. In only 40 of those admitted during the last ten years at St. Bartholomew's were the intestines gangrenous.

Dr. Carl Beck, in an article entitled *Resection of Intestines in Gangrenous Hernia*, reports four cases of resection, two of which were successful (*N. Y. Med. Rec.*, April 8, 1893). In summing up the author says that intestine suspected of gangrene is to be drawn outside the abdominal wound properly enveloped in sterilized gauze, in order that in a few days the surgeon may return and resect the same. If positive gangrene manifests itself an extensive resection of the gut is to be performed, the chief requirements for success being radical disinfection of surroundings and the prevention of the escape of intestinal contents into the abdominal cavity. He advocates immediate suture with a row of continuous deep sutures and external Lembert; no plates should be used. In conclusion he says: "The *technique* of resection of the intestine is extremely difficult and not comparable to common laparotomy. No surgeon should perform the same before he has sufficiently practised on animals. An operator may be able to resect an ankle joint well and still perform resection of intestines poorly. \* \* \* \* Experiments with this method can so readily be gained by practising on lower animals that 1,000 cats' lives sacrificed are not too much to save a single human life imperilled by imperfect surgery.

*Laparotomy in Shot Wounds of the Abdomen.*—Dr. James Kerr, of Washington, D.C., has a most interesting article on the above subject (*Virginia Med. Monthly*, Feby., 1893), in which he gives statistics of 49 operations and reports two of his own, one of which recovered, the other had extensive injuries to other organs, as the kidney and gall bladder, and recovery was a thing not to be expected. In conclusion he says: "The operation of laparotomy for gun-shot wound is mainly formidable because of intestinal suture, at present made doubly so by the

various and complex mechanical arrangements for anastomosis. In the vast majority of cases enterectomy is not required, and if hospitals would keep on hand a dozen of Sharp's No. 8 milliners' needles, threaded with ordinary black silk and kept sterilized; if we did not bother with intestinal clamps but would trust to gauze and our assistants' fingers, the contemplated difficulty of this operation would be materially reduced."

*Tubercular Peritonitis.*—In speaking of this disease and its treatment, Dr. H. P. Hawkins (*St. Thomas Hospital Reports*, 1892,) comes to the following conclusions: (1) Operative successes occur in cases of moderate or extreme ascites in the very cases which so commonly recover under medical treatment. (2) There is little difference in the mortality of the cases, whether operation is resorted to or not; such slight difference as does occur is in favour of operation. (3) No harm seems to have occurred from the operation, and even in the most glaring and hopeless cases some degree of improvement seems due to the operation. (4) Such merit as may be allowed the surgical treatment lies (a) in a more prompt and complete removal of fluid than is usually practised in medical wards, and (b) the removal of large masses of lymph and caseous products. (5) The washing out the abdominal cavity with germicidal solutions is not only futile, but wrong in principle. Koenig found in 131 cases that the mortality was greater with irrigation than without. (Quoted in *Annals of Surgery*, April, 1893)

*Choledochostomy.*—Terrier (*Rev. de Chir.*, February, 1893) has collected four cases in which an external fistulous opening was established in the common bile duct. In three of these the duct was much distended, and formed a distinct abdominal tumour. The first was one in which median laparotomy was performed for the removal of a swelling diagnosed as a cyst of the pancreas. The nature of this swelling having been revealed by the discharge of bile after puncture, a small portion of the wall of the cyst was excised, and the edges of this opening were attached to the external wound. The biliary fistula thus formed bled freely for some days after the operation, and subsequently suppurated. The patient died from anæmia and exhaustion on



the twenty-ninth day. In the second case the much distended duct, which had been regarded as a hydatid cyst of the liver, was exposed by laparotomy, incised, and attached to the wound in the abdominal wall. The patient died from collapse on the eighth day. In the third case the dilated duct was opened and stitched to the external wound under the supposition that the tumour was a distended gall bladder. In the original report of the fourth case it is not clearly stated whether the duct was distended or not. In this instance the hepatic portion of the divided duct was fixed to the surface of the abdominal wall after removal of the gall bladder, the cystic duct, and a small portion of the liver for cancer. The patient did well for some time after the operation, but died six weeks later from cachexia. In his comments on these records, Terrier points out that in two of these cases the distension of the bile duct, though clearly due to obstruction, was not associated with lithiasis. In the third case the duct was found to be completely obstructed at its intestinal orifice by a small calculus. In each instance of distended bile duct the gall bladder was much shrunken, and its walls were sclerosed and surrounded by cicatricial tissue. Although hitherto the results of choledochostomy have always been fatal, probably in consequence of the fact that extreme distension of the bile duct is often accompanied by infection of the biliary passages, it would be well, Terrier thinks, to reserve our opinion as to the prospects of the operation. Very little information can as yet be obtained on this subject, cases of distension of the common bile duct being very rare, and those in which surgery has interested itself still more exceptional.—*British Medical Journal*, April 8th, 1893.

*Treatment of Hepatic Colic with and without Icterus.*—Riedel in a monograph (*Hischwald Berlin*, 1892, and *Centrl. f. Chirurgie*, Nov. 19, 1892) reviews 52 cases of gall-bladder surgery. He reserves internal treatment for short attacks with icterus. The indications for operation are: Colic without icterus; persistent icterus caused by impacted gall-stone in the common duct; and suppuration in and around the gall bladder. He favors the two-sided operation, believing that it is impossible

to thoroughly examine the bladder through one opening. A stone cannot positively be removed in one operation, and therefore prolonged drainage is beneficial in promoting a return to a normal condition. Many gall bladders, from their size, cannot, without harm, be opened on one side alone. In the case of impacted and deep-seated gall bladder, the author procures outside drainage by forming a canal of the parietal peritoneum dissected up, with or without the fascia transversalis, and united together and to the gall bladder. The fistulæ, though often difficult to close and sometimes requiring dilatation of the cystic duct by laminaria tents, usually close by the two-sided operation in two to six weeks. In 21 cases of colic without icterus, 10 were completely healed, one died and one was not cured; 18 with jaundice, three died and 15 were cured.—*Am. Jour. Med. Sc.*, June, 1893.

*A New Method of Bone Suture.*—Dollinger (*Centralbl. f. Chir.*, No. 2, 1893) describes a new method of bone suture which he has made use of in two cases where perforation of the bone could not easily be carried out. The first case which he treated was a patient, aged 43, with a pseudarthrosis of the right leg, coming on after a fracture which had occurred fourteen weeks previously. At the operation the bones at the seat of fracture were found to be ivory-like, the medullary canal was scarcely visible, and there was no trace of callus formation. The tibia, which was fractured transversely, was sutured with silver wire in the usual way. The fibula was fractured in two places, the middle piece, about four inches long, lying loose. Whilst an attempt was being made to perforate the hard middle piece it began to separate from its periosteum. Perforation was not further attempted, but a ring of silver wire was placed around the upper part of the upper fragment a little above the seat of fracture, and a similar ring around the upper part of the middle fragment. A piece of wire was then placed on each side of the fragments, parallel to the long axis of the bone and within the two rings encircling the bone. The rings were then tightened up and fixed, and then the longitudinal wires were doubled over and their ends united on each side.

By this means the fragments were held in position. The lower end of the middle fragment and the upper end of the lower fragment were next united in the same way and the ends drawn together. In eight weeks there was complete bony union. In the second case the tibia was sutured in like manner, after a piece had been resected along with an osteochondromatous tumour which had developed in the part. The bony ends which were approximated after the removal of the resected part were hard and ivory-like, and did not easily admit of suture in the ordinary way.

*Improved Technique in Bone Suturing.*—Ville (*Centralblatt f. Chir.*, November 19, 1892,) claims that bone suture is the preferable method in cases of ununited fracture. He advocates the use of the ordinary machine for drilling steel. The drill can be fastened tightly in it; it bores in one direction or turns the drill in but one; it does not require space for rotation and works rapidly. The drill may be provided with an eye, but it must be seen to be threaded, he therefore prefers a hook that is like a probe in form, but has the eye cut through at the side and can carry a No. 3 silver wire and easily pass with it through a hole bored by No. 10 Chassière drill. With this the wire can be easily passed through one opening and withdrawn through another without the necessity of seeing the eye. The line of suture should be perpendicular to the plane of fracture; this prevents shifting and angular deformity. In diagonal fractures this may be accomplished without drilling by grooving the bone in a plane perpendicular to the plane of fracture and twisting silver wire tightly in this groove, or by drilling through both ends of the bone in a line perpendicular to the plane of fracture, passing a double wire suture by means of the suture tenaculum dividing it and uniting the suture on each side of the bone.

## Hospital Reports.

### MONTREAL GENERAL HOSPITAL.

#### DR. RODDICK'S WARDS.

REPORTED BY H. B. CARMICHAEL, M.D., HOUSE SURGEON.

CASE I.—J. P. R., aged 21, was admitted into the hospital December 24th, complaining of general abdominal pain and tenderness, latter most acute in the right inguinal region; vomiting, constipation. Temperature 101.1-5, pulse 120, hard and wiry; respirations 20.

*History of Illness.*—On the afternoon of December 20th patient felt a slight pain in the abdomen just below the umbilicus; he had his dinner shortly after this, and then pain gradually increased, followed by vomiting about one hour after dinner. Vomiting and retching continued all that afternoon and evening, when Dr. Finley saw the patient and found most tenderness in the right inguinal region, but pain was general all over the abdomen. Pain and tenderness increased during the following three days and was relieved by hypodermic injections of morphine.

*Condition on Entry.*—On the evening of the 24th, patient was admitted to hospital, when the following condition was discovered: General abdominal pain, acute tenderness in the right inguinal region. A tense mass, dull on percussion, in this neighbourhood also very noticeable. Immediate operation was proposed, but patient objected until friends were communicated with.

*Personal History.*—Patient as a child was very delicate; had typhoid fever when ten years old, measles at 12; when 13 years of age, after suffering severely off and on for nine months he passed a small stone about the size a bean through his urethra. No history of acute rheumatism. A history of quinsy recurring almost every winter since the age of 16, each time the abscess bursting into the mouth. Had gonorrhœa when 20 years of age, lasting about a month. Smokes moderately, uses liquor freely.

*Family History.*—Negative.

*Present Condition*—Is a delicate looking young man, muscular system not very well developed. Digestive system, appetite usually good and bowels regular. Circulatory system, loud systolic murmur (mitral). Pulse rapid and wiry, sometimes irregular or intermittent. Respiratory system, normal. Genito-urinary system, urine Sp. gr. 1020, acid, a trace of albumen, no sugar.

*Operation* December 25th by Dr. Roddick, assisted by Dr. James Bell—Patient was etherized and an incision made about four inches in length a little external to McBurney's point. A quantity of pus was reached before entering the abdominal cavity. The appendix was found to have been ulcerated through and was partly gangrenous. (On slitting it open after operation a faecal concretion about size of a small bean was found imbedded in it.) The appendix was ligatured with silk and removed very close to the caecum, that end of it being cauterized. Abdominal cavity washed out with boracic solution, incision sutured with silkworm gut, a glass drainage tube was inserted and iodoform gauze passed through this to the bottom of the cavity. Wound was dressed with powdered iodoform, flat wet gauze, and over that absorbent cotton, the whole kept in place by rubber adhesive plaster.

*Diary*.—Temperature evening of operation 100°, pulse 100. Recovered easily from effects of anaesthesia; complained of a good deal of pain; was dressed about 10 o'clock and very little oozing present.

December 26th—Temperature 100½°, no distension; Wound dressed and a small quantity of pus evacuated by means of a rubber tube attached to a glass syringe. Temperature remained about 100½° and pulse 100 till December 30th, when drainage tube was removed (*i.e.*, on the sixth day). Wound was dressed regularly twice daily and tube evacuated as described, but very little oozing came away. Patient experienced a good deal of pain up to this time and was relieved at night by 10 m. Battley's solution hypodermically.

December 27th—Frequent diarrhoea stools of gelatinous character, for which bismuth sub-nitrate (gr. xv) was given.

December 28th—No improvement in diarrhoea, bismuth and opium used.

December 29th—Two a.m. patient was catheterized and urine withdrawn, about 30 oz. Diarrhoea about the same.

December 30th—Tube removed and tract packed with iodoform gauze; enema of starch and laudanum, which lessened diarrhoea.

December 31st—Given  $\frac{1}{2}$  oz. castor oil, followed by 20m laudanum. In the afternoon given another enema of starch and laudanum. Diarrhoea continued to January 3rd and was of the same gelatinous, slimy nature.

January 3rd—Patient experienced a severe rigor about 5 p.m., followed by a rise of temperature to  $103^{\circ}$ , next hour  $105^{\circ}$  (cause unexplained). Profuse sweating, and within two hours from time of chill temperature dropped again to  $100^{\circ}$ .

January 5th—Patient spent a very comfortable day, but during the night vomited five times.

January 6th—At 1 a.m. complained of great pain on attempting to micturate and pain along urethra during the act. Was catheterized with soft rubber catheter, passing it in causing pain in the posterior urethra. Thirty-eight ounces of foul, turbid alkaline urine were drawn off and found to contain abundant phosphates, little or no albumen (urine previous to this had been clear and acid). At 2 a.m. temperature rose to  $104\ 1.5^{\circ}$ , without any noticeable chill, falling again in two hours to  $101^{\circ}$ .

January 8th—Stitches were removed 15th day after operation. Wound where glass tube was placed superficial and about size of 25c. piece. After this date patient rapidly improved in health and strength, but urine remained alkaline, the pain on micturition gradually disappearing.

February 6th—Patient was discharged to-day, wound completely healed; a cotton spica bandage used as a support.

Temperature on admission  $101\ 1.5^{\circ}$ , after operation  $100^{\circ}$ . For first three weeks range about  $101\frac{1}{2}^{\circ}$  at night with exception of two temperatures mentioned previously. For second three weeks range about  $99\frac{1}{2}^{\circ}$  at night. Night previous to discharge  $98\ 1.5^{\circ}$ . Temperature normal day of discharge.

Pulse improved after operation, becoming softer and more regular, at times during convalescence it was irregular and intermittent.

*Medicinal Treatment*—A purgative on entry; diet, milk and soda or boiled milk. When required for pain 10 min. Battley's solution of opium. Stimulant, brandy  $\bar{3}$ ss. q. 2 h., quinine sulph. gr. V every 8 hours. For sleeplessness, phenacetine as required. For diarrhœa, bismuth, opium, and enemas of starch and opium—pil. plumbi cum opio.

January 10th—Diet improved, chicken broth and toast, beef tea, eggs, etc. For bladder and urethral trouble, former washed out with solution of boracic acid twice daily; internally inf. triticum repens and a capsule of cubebs and copiva T.I.D.

This was the first attack.

CASE II.—W. L. M., aged 13, was admitted to hospital December 30th, complaining of general abdominal distension, pain and tenderness, latter most acute in the right inguinal region; vomiting and constipation.

*History of Illness*—Began December 22nd with great pain in the abdomen and vomiting, was troubled in the same way the following day.

On the 24th patient was feeling very much better and for the following four days was fairly well and complained of no pain. Early on the morning of the 29th the pain began again, gradually becoming worse, was felt all over the abdomen, and was accompanied by vomiting and retching. On the morning of the 30th patient was delirious for a few moments at times, pain and vomiting continuing; in the afternoon he was removed to the hospital for immediate operation.

*Condition on Entry*—Patient was in an extremely sick condition. Temperature 103, weak and listless; pulse small and rapid; abdomen distended, tender, more so in right inguinal region, where on palpation a tense tender mass could be discovered, dull on percussion.

*Operation*.—The same as the one previously described. Ether the anæsthetic. Very little pus was discovered, but the appendix was found matted together with the omentum by old

inflammatory adhesions; this omental tissue was tied off and the appendix afterwards removed. This latter was found to be large, inflamed and ulcerated. Imbedded within it was a faecal concretion about the size of a bean.

*Personal History*—Patient has never been a very strong boy; had measles and chicken-pox when a baby. When about 10 years old and again about 12 patient was laid up for about three days each time with great abdominal pain and vomiting, attacks very similar to the commencement of the present one.

*Family History*—Immediate family history negative. One aunt died of phthisis; grandmother on mother's side died from cancer of stomach; grandfather from epithelioma of lip.

*Present Condition*—Patient is a fairly healthy boy, small for his age; muscles flabby; appetite fair and bowels usually regular; circulatory and respiratory system normal; genito-urinary system normal.

*Diary*—December 30th, recovered well from operation. Complained of a good deal of pain about 9.15 p.m. from abdominal distension, which was relieved by soapsuds and turpentine enema. First dressing at 10 45 p.m., a good deal of discharge coming away. Vomiting and hiccoughing a little during early part of night. Given 6 m. liq. opii. sed. at 1.45 a.m., after which patient slept well.

December 31st—Dressed morning and evening; vomited once during the day; very restless during night; enema and hypodermic repeated. Patient remained about the same for several days and nights, the greatest trouble being constipation and flatulent distension.

January 4th—Small stitch-hole abscess formed, discharging pus and very painful; stitch removed and abscess opened.

January 7th—Glass drainage tube removed.

January 10th—Second small stitch-hole abscess formed. Stitches were removed by degrees, the last one January 15th.

January 15th—Patient was sufficiently well to be removed to his own home. Wound superficial; abscesses not completely healed; distension disappeared and bowels regular.

Temperature on admission 103°, after operation 100°. De-



ember 30th, midnight,  $102\frac{1}{2}^{\circ}$ ; midday December 31st,  $101^{\circ}$ , midnight  $99\frac{1}{2}^{\circ}$ ; January 1st, midnight,  $101\frac{3}{5}^{\circ}$ , after which date it was never above  $100^{\circ}$ . Night previous to discharge temperature  $99^{\circ}$ , day of discharge below normal. Pulse and respirations natural.

*Medicinal Treatment*—Battley's solution as required, later phenacetine. For flatulent distensions soapsuds and turpentine enemas, mag. sulph. tinct. card. co. and spts. chloroform. No stimulants. Milk diet; January 4th allowed beef tea and gruel.

This was the third attack.

CASE III.—J. S., was admitted December 9th, complaining of pain, tenderness and a hard mass in right inguinal region. Temperature  $101\frac{4}{5}^{\circ}$ .

*History*—On the evening of December 7th patient was taken suddenly with pain referable to the region of the umbilicus. Dr. F. W. Campbell was called and advised hot fomentations, which relieved the pain considerably. On the 8th pain again worse, now in the right inguinal region. Pain was accompanied by vomiting and constipation. No passage of bowels from commencement of pain till after operation.

Patient was removed to hospital and operation was proposed, but patient's consent could not be gained. However, the operation was performed the following day at 1 p.m. (December 10th). An incision four inches long was made in the right iliac region; on cutting down towards the peritoneum a collection of pus was found coming through an opening in the peritoneum; passed in a director and opened it further with a blunt pointed bistoury.

The appendix was found to be ulcerated through, and on removing and opening a faecal concretion was seen embedded in it. The appendix had become gangrenous.

Patient's temperature after operation  $97^{\circ}$ , following morning  $99\frac{1}{5}^{\circ}$ , that evening  $101\frac{1}{5}^{\circ}$ . Night following operation patient complained of distension, which was relieved by soapsuds and turpentine enema. Patient was troubled with uncontrollable hiccough and vomiting till death, December 13th, 6 a.m. Treatment for vomiting, cocaine every three hours; treatment for hiccough, mustard paste.

## Correspondence.

### ON "SEBORRHOIC ECZEMA."

To the Editors of THE MONTREAL MEDICAL JOURNAL.

The eczemas, or eczematous diseases of the skin, if understood in their widest sense (as the Vienna school of dermatologists understands them), include a number of different clinical types, as many, perhaps, as might be classed in a general way under the head of catarrhal inflammations of the mucous membranes. During recent years Dr. Unna, of Hamburg, has added to this already extensive group of diseases, several which hitherto have been considered and described as essentially diseases of the sebaceous glands. These, together with some forms always regarded as eczemas, he groups under the name of "Seborrhœic Eczema."

What, then, are the types of disease which, in Unna's opinion, belong to this class?

1. Seborrhœa capitis, or pityriasis capitis, familiarly known as scurvy or dandruff and called by Unna eczema seborrhoicum syriamosum. This condition of the scalp is very usually accompanied by a certain amount of hyperæmia and itching, and in some patients very readily lights up into an unmistakable eczema. It may fairly be considered as a dry catarrh, and no doubt affords excellent soil for minute parasitic growths. On the other hand, it is a little difficult to understand in what way either deficiency or excess of sebaceous secretion can produce a condition of this kind, although some dermatologists regard it as a condition of scalp analogous to the condition of skin and sebaceous glands which causes comedones of the face, back, etc. Associated with this scurfiness of the scalp, small patches of roughened skin, formerly known as pityriasis simplex, are frequently found about the face and neck of girls and young women. All these are classed by Unna amongst his seborrhœic eczemas.

2. Seborrhœa proper, where greasy crusts are found on the scalp. Such crusts, popularly known as "milk crusts," when they occur on the hands of young children, are often associated with an eczematous condition spreading on to the forehead and cheeks. Indeed, a large proportion of all eczemas

of the head and face in children are claimed as belonging to Unna's seborrhœic eczemas,

3. Lichen circinatus of Willan, or seborrhœa corporis of Duhring. This condition, commonly seen in patients with an oily skin, and situated on the chest or between the shoulders, is also claimed as a seborrhœic eczema.

4. A number of chronic eczematous eruptions affecting the back of the ears, and sometimes the folds of the joints, axillæ or groins, and frequently associated with a scurfy condition of the head.

5. Cases occupying apparently an intermediate position between psoriasis and eczema; well defined and scaly on some parts of the skin, less well defined and moist on other. Such atypical cases of psoriasis, or of eczema, are usually found in what may be called seborrhœic patients.

Are we then justified in grouping together, as Unna does, these very different clinical manifestations of disease in a single class apart?

Here are two of the most recent expressions of opinion on this complicated question:

Dr. Brocq, who may be taken as a representative of the modern French school of dermatologists, says: "These facts may be very naturally explained by admitting that a person predisposed to eczema may have at the same time a seborrhœa. This seborrhœa being more marked in certain situations causes there 'points of least resistance,' where the eczema develops most readily. When such an eczema has developed it is modified (*a*) by the seborrhœic condition of the skin, (*b*) by the secretions of the skin, and (*c*) by parasites of many kinds which multiply on this exceptionally favourable soil. Thus we have to do with an eczema of a special type—an eczema modified as to its situation and appearance by the soil on which it develops." The three first classes, as given above, Dr. Brocq prefers to retain amongst seborrhœas, to which he believes they are most closely allied.

Dr. Radcliffe Crocker, in his work on skin diseases (the most complete yet published in the English language), says: "There can be no doubt that much credit is due to Unna for an important generalization; but the majority of dermatologists, except his most faithful disciples, consider that he is giving his seborrhœic eczema too extended a meaning, which

dermatology will be a loser rather than a gainer by adopting unreservedly." Dr. Crocker subsequently describes the first two morbid types as seborrhœas, and the others as seborrhœa lichenoides, seborrhœa eczematiformis, and seborrhœa psoriasiformis, respectively.

This whole question, of which only the most imperfect outline is here given, requires farther light and fuller investigation. It may be suggested, however, that Unna's hypothesis requires too much if it requires us to believe, as it seems to do, that because there is a certain amount of sub-acute inflammation in seborrhœa capitis and other forms of seborrhœa, therefore they are eczemas. There is evidently a wide step here. On the other hand, it seems more than probable that such a chronically inflamed scalp affords an ideal soil for the development of an acute eczema, and that in a predisposed patient a very slight cause would be sufficient to bring about this result.

In what way and to what extent parasites play a part in these morbid processes it is at present very difficult to say. Is their relation ætiological or merely accidental; do they, in other words, cause the disease, or do they merely take root and flourish on an already diseased skin? Such questions are more easily asked than answered. It seems probable, however, as Dr. Brocq suggests, that they at least modify the characters of the eruption and give it the circinate and serpiginous spreading border so frequently seen in some forms of active seborrhœa.

Again, that parasites, or the poisonous products of parasites, have an intimate association with the several forms of disease classed by Unna under "seborrhœic eczema," is rendered very probable by the nature of the remedies found by practical experience to be most efficacious in these affections. This is a practical point. In seborrhœa capitis, or corporis, and even in some of the more distinctly eczematous forms, merely soothing remedies, such as the lead lotions, or oxide of zinc ointments, are found to have as little effect in the way of permanent cure as they have in an eczematous condition dependent on scabies. The really efficient remedies in these cases, as has been pointed out by Unna and others, are antiseptic and parasiticide preparations, such as those containing resorcin,

sulphur, salicylic acid or the mercurial salts. The old adage as to treating the patient rather than the disease is applicable here as elsewhere in dermatology, and care is required in using such remedies as those mentioned, some of which are very irritating to the skin, lest instead of curing we aggravate the affection, and possibly light up an acute and rapidly spreading dermatitis, which may in a few days become almost universal, and may even endanger the patient's life. As a rule the seborrhœic scalp or skin is tolerant of rather strong applications, but in the condition described by Crocker as seborrhœa psoriasiformis, if the routine treatment for psoriasis is adopted, such as chrysarobin or the stronger tar preparations, the result is pretty certain to be unfavourable and may be disastrous.

Whether, then, we consider the several forms of disease enumerated above as being essentially eczemas with Unna, or whether we regard some of them as essentially diseases of the sebaceous glands, and others as being an eczema psoriasis engrafted on and modified by an exceptional soil, and probably complicated by parasitic invasion, as do Brocq and Crocker, we cannot but acknowledge that they constitute a group of great clinical importance, and that on account of the frequency with which they occur, as well as of the exceedingly satisfactory results which may be anticipated from well directed and, in some cases, persevering treatment, they are amongst those diseases of which a clear and accurate conception is especially desirable.

We are then, we believe, justified in concluding :

1. That Unna's "seborrhœic eczema" cannot be regarded as a separate or distinct disease, but rather as an interesting group of affections.
2. That patients in whom the sebaceous system is exceptionally active or exceptionally developed, are especially liable to these affections.
3. That eczematous, psoriasiform, syphilitic and, indeed, almost all eruptious are likely to be modified in character and appearance in the case of these patients.
4. That the skin of such patients affords an exceptionally favourable soil for the growth of many kinds of parasites,

which in their turn tend to modify the character of pre-existing eruptions, or to induce further inflammation.

5. That the treatment of these affections should, in the first instance at least, be directed against this parasitic element when present.

Unna's theory that the Seborrhœic affections are dependent largely or chiefly on the sweat glands must, we believe, be regarded as to a large extent purely hypothetical, and as yet unproved.

DR. RANKINE DAWSON.

LONDON, April 20, 1893.

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*To the Editors of THE MONTREAL MEDICAL JOURNAL.*

DEAR SIR,—Desiring to present an article on the subject of "Complications of Tonsillotomy" at the next annual meeting of the Louisiana State Medical Society, I would request your readers to favour me with answers to the following questions:

1. Number of cases of hypertrophy of faucial tonsils operated upon.
2. Complications occurring during these operations, stating nature of complications and number of cases affected.
3. Method of operating in the cases in which these complications developed.

In publishing these cases I shall omit the name of the physician who reported them, if desired.

I shall mail a reprint of the article which I shall present at the meeting to those physicians who send me a report of their cases as above. Letters should be addressed to W. Scheppegrell, M.D., care of Eye, Ear, Nose and Throat Hospital, New Orleans, La.

Very respectfully,

W. SCHEPPEGRELL, M.D.

NEW ORLEANS, June 20, 1893.

## Reviews and Notices of Books.

**Handbook of Massage.** Emil Kleen, M.D., Ph. D. Practising Physician in Carlsbad, Bohemia. Authorized translation from the Swedish by Edward Mussey Hartwell, M.D., Ph.D. Director of Physical Training in the Public Schools of Boston. Late Associate in Johns Hopkins University. P. Blakiston, Son & Co., Philadelphia.

Dr. Kleen's book is especially useful on account of the fact that it is written by one who looks on massage, not as a specific, but as a useful means of treatment in certain cases.

Massage is first defined and its history given, a careful distinction being drawn between massage and gymnastics. Massage is divided into four classes—*effleurage* or stroking, frictions or rubbing, *pétrissage* or squeezing, and *tapotement* or striking. This is the division of the Mezger school, and is considered by the author, to be the most rational and simplest classification. The physiological and general therapeutical effects are given as are also the contra-indications. The methods of applying massage to each organ and part of the body are detailed at length, and with great clearness. Cases are quoted illustrative of the methods used and results to be expected.

**Lessons in Physical Diagnosis.** By ALFRED L. LOOMIS, M.D., LL D., Professor of the Practice of Medicine and Pathology in the University of the City of New York. Tenth edition, revised and enlarged. Octavo. Illustrations, some in color; 240 pages, extra muslin, price \$3.00. New York: William Wood & Company.

In this, the tenth, edition much that is new is added and the remainder thoroughly revised to keep pace with the advancement of science. It is a complete guide to physical diagnosis, a subject upon which no one is more competent to write than the author. Its popularity and usefulness is shown by the rapidity with which the editions have followed one another. We can recommend this as an exceedingly useful work, both to students and practitioners.

**A Practical Treatise on Materia Medica and Therapeutics.** With Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker. A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases, of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc., etc, Second Edition. Revised. In two Royal Octavo Volumes. Vol. I, 353 pages: Devoted to Pharmacy, General Pharmacology, and Therapeutics and Remedial Agents not properly classed with Drugs. Volume II 630 pages: An Independent Volume upon Drugs. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry Street.

The first volume is devoted to remedial agents and therapeutics not properly classed with drugs, such as electricity, heat, music, mineral waters baths, etc. Pharmacy is dealt with at some length, and instructions given for prescription writing. Massage and mechano-therapy are treated of in a clear manner and the limitations of the treatment set forth. In short, the whole field is gone over carefully and clearly.

The second volume deals with drugs proper and their therapeutics. All the new drugs are described and mention made of the latest mode of treatment, that by means of animal juices and extracts, especially the treatment of myxœdema by means of a preparation of the thyroid gland.

The first edition of this work has been exhausted in two years and we venture to predict that this, the second edition will receive just as favourable a reception.

**The Treatment of Constitutional Syphilis.** By Oswald Ziemssen, M.D., Knight of the Iron Cross and of the Prussian Order of the Crown, Wiesbaden. H. K. Lewis, London, 1893.

In this little book are set forth the views of the author regarding the treatment of this disease. He is of the opinion



that ; "The radical cure of constitutional syphilis is possible, but there is as yet no certain proof of this at our disposal, relapses having occurred even after many years." He believes that syphilis is most probably caused by a microbe. Local preventive methods, such as excision of the chancre, he thinks are of no avail, although local treatment may be a valuable adjuvant to other forms of treatment.

General specific treatment should be adopted as early as possible. Mercury, he believes is the only drug which will cure syphilis and it must be used in very large doses, preferably by inunction. He says that mercury does not accumulate in large quantities in the tissues and that it can be proved that the diseases of the bones, etc., which attack syphilitic patients, sometimes after many years, are syphilitic, not mercurial. In speaking of the Iodides he says :—"While mercury by its antiseptic and bactericidal effect injures the microbe which is the cause of the disease, the iodide by its absorbent action removes the hyperplastic changes of the tissues which have been produced by the microbe." Hence in many cases the combined treatment, mercury with iodide, is most useful. The large experience which the author has had, coupled with his reputation as a careful observer, commend this book as one which should be studied by every practitioner.

**Delafield and Prudden.** A handbook of Pathological Anatomy and Histology. Fourth Edition. New York, William Ward & Co., 1892.

When a text-book attains to its fourth edition the evidence that it has reached those for whom it is written and that it supplies a demand is so strong that there is little if any need to call attention to its good points, little need to do anything more than point out that it has undergone further enlargement and revision and indicate those features in which it is still capable of improvement. Each new edition of this excellent handbook shows evidence that the authors are determined to render it the most useful and authoritative yet published, and unless we enter into the discussion of minutiae it is very satisfactory to state that in its larger features this textbook necessitates peculiarly little adverse criticism. The arrangement is good, the descriptions of the various morbid

processes pithy, being condensed without loss of clearness. We are inclined to consider, however, that the section upon Bacteriology should either be greatly reduced in extent, or greatly amplified, for while it is necessary that now-a-days a text-book of Pathological Anatomy should call attention to bacteria and the lesions that they produce, we consider that either the descriptions should be confined to a brief account of the relationship of the individual species of bacteria to the histological disturbances induced by their growth within the organism, or on the other hand, that this branch of Pathology should be dealt with upon a scale commensurate with the rest of the volume. The bacteriological details here given are admirably clear and concise, but are just not sufficient, it seems to us, to be of aid to the practitioner interested in bacteriology, wishful to study the bacteria present in diseased tissues. As an instance in point we would refer to the directions given for the detection of the spirillum of cholera in the dejecta. While the principles given are quite correct the absence of details as to the minutiae of such examinations renders the account useless. It would be well, also, to add a chapter dealing with that very complex subject, the cysts and cyst-privations. The new engravings in this edition, both from drawings and microphotographs, are a great improvement. It only remains to remove some of the older engravings which in comparison appear bald, and almost misleading by their diagrammatic character. We only wish that in general Pathology there existed as excellent a handbook as this in what is but one branch of the subject.

**A Text-Book of the Theory and Practice of Medicine by American Teachers.** Edited by WILLIAM PEPPER, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania. In two vols. Illustrated. Philadelphia: W. B. Saunders. 1893.

The first volume of this important work is fully up to expectations. The first article on general hygienic measures by Dr. Billings, of Washington, is worthy careful perusal. Dr. Billings is at the head of the only institute for hygiene on the Continent, and as such is highly competent to give an account

of the more important questions pertaining to public health at the present time. Dr. Pepper writes on the continued fevers. His article on typhoid is very full and painstaking. It deals with the subject more fully than we find in any other recent work. If there is any fault to be found with this work it is in the profuseness of some of its articles. This, however, does not apply to the article on typhoid fever, for on reading it it would be difficult to find any matter that would be better left out.

The articles on acute miliary tuberculosis, scrofula, syphilis, diphtheria, erysipelas, cholera, etc., are contributed by Dr. Gilman Thompson. They are carefully prepared. Dr. Whitaker writes well on the acute infectious fevers. Drs. H. C. Wood and William Osler are the authors of all the articles on the central and peripheral nervous system. These names are a guarantee that the work is admirably done.

The book, on the whole, is certainly one of great value, both to student and practitioner, to the former as a work of reference mainly.

**Ophthalmic Atlas.**—For Recording Pathological Conditions of the Fundus by means of Superimposed Layers of Colour. By FRANK HAYDON, Assistant Surgeon Western Ophthalmic Hospital, London; Clinical Assistant Royal London Ophthalmic Hospital, Moorfields.

This, which is a very ingenious method of recording pathological conditions of fundus, consists of superimposed layers of colour, which can be erased by scraping, and thus show the layer beneath. The colours depicted are orange, red, black and enamel white, these layers consisting of many coats of colour. The layers are sufficiently thick so as to allow of any alteration in the size of a vessel without exposing the layer immediately beneath.

It is one of the simplest methods that could be devised, and should prove of the greatest possible value for those who wish to keep a record of the cases that come under their notice.

*Society Proceedings.*

## THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

*Stated Meeting, February 17th, 1893.*

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

*Retro-peritoneal Myxo-lipoma.*—Dr. ADAMI gave a history of and described a retro-peritoneal tumour of great size which he had received from Dr. Hannay, of Perth. A photograph and portion of the tumour weighing several pounds was exhibited to the Society. A detailed account of this rare form of tumour will appear in the next number of the JOURNAL.

*Intra-mural Myoma of the Uterus.*—Dr. ADAMI exhibited a large specimen of this condition which he had received from Dr. Alloway, which with the attached portion of the uterus weighed close upon two kilos. The specimen had been cut through from side to side longitudinally by Dr. Adami and showed well the relationship of the various parts. The globular mass of new tissue originated evidently at the uppermost part of the uterine wall, and growing down into the cavity of the organ had completely filled it; but its intra-mural origin could be clearly seen, inasmuch as at the edge where the projecting part of the mass joined the uterus the inner layers of the uterine muscle were reflected over the growth. The tumour was a typical uterine myoma. The specimen was exhibited to the Society on account of its relatively large size, and of the very considerable hypertrophy that the uterine wall had undergone *pari passu* with this growth into the cavity. The presence of this large globular mass arising from the fundus of the uterus and the hypertrophy of the walls gained further interest from the fact that this condition had led more than one medical man attending the patient to make the wrongful diagnosis of eighth month pregnancy.

Dr. T. JOHNSON ALLOWAY detailed the history of the preceding case. The patient was 42 years of age and had borne four children, the last four years ago; had had several opinions as to the nature of the growth, and on two occasions had been told that she was pregnant. This was not surprising, the tumour being one of those rapidly growing myomata

with a loud bruit, synchronous with the heart's action, heard over most of its surface, a form very difficult to differentiate from pregnancy. She was first seen on the 24th of January, and the operation was performed on the 31st of that month, during which time she remained in his private hospital and the usual preparatory measures were adopted.

The method of removal was by total extirpation, through an abdominal incision, of the ovaries, tubes and whole uterine body, including the cervix, as described by Eastman.

Any lacerations or tears of the peritoneum were closed by continuous sutures; this procedure takes but a few minutes and by it the cavity is totally closed.

This patient had for her highest temperature  $99.6^{\circ}$ ; the pulse never exceeded 104. She made, in fact, a recovery that was surprising to him and to his colleague, Dr. Gardner, knowing the great gravity of the operative procedure. It is now two weeks since the operation and she will probably go home in one week more.

In this method of removing so large a myomatous body there is the great gratification of knowing that the convalescence is so short, so smooth, and that there is absolutely no necrotic tissue left to give rise to septic changes. In the extra-peritoneal method, on the other hand, there is necrotic tissue and a great danger of sepsis, so that the patient is not really out of your hands until all this necrotic tissue separates, which does not take place for 12 or 14 days after the operation. By this method after the fourth or fifth day you may declare her absolutely free from any untoward results. Now, with reference to the other methods besides the extra-peritoneal one that have been adopted in such cases, such as where the pedicle is dropped after suturing the cervix with buried sutures, and a modification of Schroeder's old method, lately devised in Baltimore, whereby sutures buried and passing through the centre of the cervix were ligated on either side and the peritoneum turned in and sutured; these have all the two great dangers attending them of hemorrhage and necrotic changes taking place. In Eastman's method there is no danger whatever of this nature, there is no uterine tissue left to unite, only vaginal tissue, and that is covered by peritoneum. There is no doubt that this last method is a great im-

provement on all previous ones, the one drawback it has is the great difficulty of its performance. It is certainly the most formidable operation in surgery and requires not only the greatest skill, but also the greatest endurance.

*Dermoid Cysts of Both Ovaries.*—Dr. ADAMI exhibited two ovaries received from Dr. Alloway, both of which contained dermoid cysts. The right ovary was represented by a large, relatively thick walled cyst  $4\frac{1}{2}$  inches in diameter. This upon first opening was found to be filled with a brownish blood stained fluid, and in this could be distinguished old blood clot, a large amount of fatty debris, cholesterin crystals and hairs. On removing these and washing out the cavity two fully formed teeth were found projecting into it from a patch somewhat raised above the level of the rest of the wall, and upon this patch were numerous hairs growing from the epithelial coat. The fat was due in part to degeneration of the cells and cell-debris thrown off the surface of the cyst; but probably, as has been found in other dermoid cysts, it has been given off from sebaceous glands associated with hair follicles and epithelium.

This tumour, presented, therefore, the most common and characteristic features of an ovarian dermoid. That it was ovarian was manifested by the presence of portions of the fallopian tube still attached, and of a small cystic graafian follicle imbedded in its walls. The interest of the case centres in the more unusual feature of the other ovary being similarly affected, though with multiple dermoids of smaller size. This, the left ovary, contained several small cysts, and one of these had its walls fairly well developed, there being a well marked cutis with small hairs growing therefrom. Two other rather larger cysts, the more important being  $\frac{3}{4}$  inch in diameter, contained hair and fat, others again still smaller had merely fluid contents. In this specimen a fair amount of tissue still remained.

Dr. Adami called attention to the interesting series of cysts presented by these two ovaries, from minute cavities which apparently represented dilated graafian follicles, up to the large typical dermoid cyst of the right ovary. Cases like this, tending to throw light upon the dispute as to the origin and production of ovarian dermoids, are of high value.

Dr. ALLOWAY called attention to the interest attaching to this case, the presence of two dermoids in the same patient. The condition is relatively rare, Dolan in his account of 31 cases finding only 7 in which the condition affected both ovaries, that is to say, but a little over 20 per cent.

The history of the case was as follows: The patient, a resident in the United States, underwent examination in Philadelphia and again in New York two years ago, and there already the diagnosis was given of pelvic tumour. Accompanying her husband, who had come to Montreal on business, she here began to suffer severely. She consulted Dr. Thompson, who referred her to Dr. Alloway.

It was difficult to make out her condition without putting the patient under ether, but when this had been done the uterus was found to be anteverted, there was a tumour in the right pelvis, low down and impinging upon Douglas' pouch. This filled the whole upper third of the vaginal space and encroached somewhat upon the left but did not involve the left pelvis. The diagnosis was given of a pelvic tumour, probably containing fluid. The tumour was fixed but separate from the uterus and certainly not connected with that organ. The question was as to whether it was a dermoid or a cyst of the broad ligament. From the fact that the tumour had been diagnosed two years ago, and that only when these tumours become large and irritation and inflammation set in is any pain experienced and a physician summoned, makes it probable that the tumour in this case had been in existence for a long period growing slowly, and this led to a conclusion in favour of its dermoid nature.

At the operation numerous adhesions were encountered. The tumour was adherent to the posterior face of the broad ligament and to the wall of the pelvis on that side. It was also adherent to the wall of the rectum for a considerable distance. In such cases there is great danger of entering the rectum. To guard against this complication Dr. Thompson, who assisted at the operation, was asked to pass his fingers up the rectum and keep them there as a guide while the adhesions were separated. The operation had been performed four days previously and the patient had remained perfectly well, the temperature never exceeding 99.5°.

Dr. ALLOWAY, continuing, said he had now given up silk ligatures in these cases. He finds Keeler, of New York, the most reliable source to procure catgut from; the size No. 0 ligature (simply the base fiddle string) is that used. It is, in his opinion, the best ligature extant to-day where there is a large amount of tissue to be brought together. He made an experiment some time ago with reference to the difference between catgut and silk. It was with reference to the reputed property catgut has of shrinking when moistened, whereas it is well known silk remains absolutely the same. He took a piece of sea-tangle tent, saturated it for some time in water, so that it was fairly expanded, then tied upon it above a silk ligature, and below one of catgut (No. 0). They were both tied equally tight. The tent was placed in a jar of sublimate solution. About one week afterwards he took it out and found that the catgut had cut a ridge into the tent, the silk remained perfectly the same. That was an absolute proof that the catgut does shrink. It is this power of shrinking under moisture that makes it superior to silk in operations of this kind. Tissue shrinks after operations, and in the case of silk this shrinking implies a loosening of the ligature, which is most commonly the cause of hemorrhage. Now, in the case of catgut this loosening does not occur, the ligature contracts with the tissue, and hemorrhage is a much more rare occurrence where the latter is used.

*Fibrinous Cystitis.*—Dr. ADAMI exhibited specimens and microscopic preparations from a case of this condition, for which he was indebted to Dr. (Miss) Dougall. The casts had been passed upon three or four separate occasions of late, there was severe uterine disturbance, a history showing that the material had been passed coincidentally with a menstrual period, and while these thin white fairly firm fibrinous membranes were evidently casts from some cavity, the question had arisen as to whether that cavity had been the uterus or the bladder. The history of uterine disturbance first attracted attention to the uterus, but in the first place this had been filled by a new growth, and in the second place examination of the fibrinous material both in fine sections and by teasing failed to reveal any uterine cells, or orifices of uterine glands. On the other hand flattened cells resembling bladder epithelium



were present. There had been cystitis for the previous fortnight with the passage of a relatively large amount of pus, and with the passage of the casts the condition of the urine improved, the number of pus cells diminished. The membranes and membranous shreds were passed after great pain and difficulty. The passage greatly eased the patient.

The condition in this case is rather at variance with the rare cases that have been described as exfoliative cystitis. Thirty or more such cases have been narrated, mostly in women, and in connection with labour or serious uterine troubles. In these, after great pelvic disturbance, the history given is that of the passage of a more or less complete cast of the interior of the bladder, and upon microscopical examination the cast is found to be composed of a large amount of fibrine, and incorporated in this what are evidently the inner layers of the bladder wall; in many of the cases, not only epithelial layers, but a certain amount of the muscle tissue of the bladder wall has thus become exfoliated.

In the case in question a singularly small amount of anything like the element of the mucous membrane of the bladder could be seen embedded in the fibrine, though there were numerous pus cells. The case is consequently described as one of 'Fibrinous cystitis' rather than 'exfoliative.' True exfoliative cystitis would seem in all cases to be due to a stoppage of the circulation in the vesical walls in consequence of more or less long continued closure of the vessels by pressure. It is in fact a necrosis of the inner layers of the bladder wall. In this case the condition has been neither so extreme, nor has it been of relatively sudden onset. That there has been obstruction of the pelvic veins is shown by the existence of phlegmasia alba of both lower extremities, and to the pressure of the large uterine tumour can be referred the state of the bladder which has rendered the setting up of cystitis a relatively easy matter. That same obstruction of the iliac veins which caused the phlegmasia would affect also the veins of the base of the bladder which pass to the internal iliacs, and Dr. Adami suggested that a very possible explanation of this curious condition was to be found in this obstruction, which leading to a congested condition of the vesical mucous membrane would lead to exudation, and this, when already there was inflammatory dis-

turbance in the organ, would tend to be of a fibrinous coagulable nature. But it would seem reasonable both in phlegmasia alba and in this condition of fibrinous cystitis to take into account also obstruction to the lymph flow of the parts.

Dr. WM. GARDNER, who had seen the patient with Dr. Dougall, gave details of the history of the case, which served to explain the occurrence of the cystitis. The woman from whom the specimen had been taken was suffering from a large myoma, a great part of which was already extruding. The pelvis was nearly filled by this myoma, and in the abdomen could be felt a large smooth mass. The condition of complete filling of the pelvis might account for the bladder troubles on the lines laid down by Dr. Adami. The woman had, in a sense, been in labour for several weeks, her womb trying to extrude the mass; the bladder naturally has been encroached upon and variously disturbed.

*Bradycardia.*—Dr. H. A. LAFLEUR reported a case of slow pulse, better called slow heart or bradycardia. The history of the case is as follows: A young man had an attack of acute rheumatism from which he made an apparently good recovery. Present condition seems fair, there being nothing which might disturb the circulatory equilibrium save some periodical attacks of diarrhoea. These attacks cannot be traced to errors in diet or any local causes in the intestinal canal. The patient is a student, tall and spare, chest long and narrow, bulging of the costal cartilages of the left side from the 10th to the 6th rib. Apex beat punctuate; in the sixth interspace in the nipple line. Short purring thrill felt on palpation, also slight diastolic shock. Cardiac dulness extends from the third rib downwards, laterally from the middle of the mediastinum to the nipple line. Auscultation reveals an occasional irregularity, but very seldom. First sound loud and snapping in quality, no trace of murmur; second sound accentuated and reduplicated, heard most loudly at the pulmonary cartilage, and transmitted quite distinctly beyond the area of cardiac dulness. No enlargement of the spleen, no enlargement of the liver, no œdema.

The first count of the pulse was 49, the second count gave from 50 to 54. The character of the pulse is that it is of small volume, but usually quite regular. Respirations were 16 to the minute; temperature not taken at the time; but subse-

quently it was found to be subnormal throughout most of the day. During a period of ten days, during which his temperature was taken three times daily, it only reached the normal point on three occasions. A tracing of a normal pulse with a fairly high tidal wave and a fairly high secondary wave was shown to compare with the tracing of the patient's pulse when it was beating at 54. It shows very typically that this tidal wave is short, (that the artery is not very actively filled, a common condition in obstructive disease of the mitral orifice); it shows besides a very long diastolic period, during which the ventricle is filling, and that is succeeded by the next systole. A tracing taken after exertion was also exhibited, the pulse here is more rapid, nearly 80; it has the same characters as the previous tracing with the exception that the second wave is very well marked, in fact it approaches the condition of dicrotism. When the heart is beating rapidly it cannot be so well filled on account of the obstruction at the mitral orifice.

This condition of bradycardia (slow heart) has been known for a long time; but until quite recently no attempt has been made to collect and tabulate a number of cases. At the meeting of the American Association of the Medical Sciences at Washington recently Prentiss collected over 100 cases in which the pulse beat below 60. The symptom of bradycardia may arise under any varied conditions of disease indeed; and although attempts have been lately made to classify them, notably in the large series of cases collected by Riegel, so far they have arrived at no very satisfactory results. The principal conditions under which one meets with it are (I) injuries to the central nervous system, in injuries of the head slow pulse is often a very conspicuous phenomena; (II) conditions associated with organic heart disease, fibroid disease, fatty degeneration, and much more rarely valvular disease; (III) toxic cases, poisoning by lead and arsenic, eating bad fish, etc.; (IV) anæmia and the cachectic conditions generally; (V) catarrhal jaundice; whether this is one of the toxic cases or not is not clear. The tendency is to group them under two heads (I) where there is organic heart disease; (II) where the nervous mechanism is at fault.

We must probably in some cases take into account the mechanical factor; where there is valvular disease preventing

the filling of the left ventricle the systole is retarded, and there is a prolonged diastolic pause. The prognosis in these cases is not good. It is said to be worse where there is actual organic disease of the heart. The great danger is in lowering the heart beat to an extreme degree, which is known to give rise to epileptiform attacks. An important point to make sure of in such cases is that the pulse and the heart beat are synchronous, as the pulse may be retarded through some obstruction or disease of the vessels, while the heart is normal. In this case this fact was repeatedly observed. As regards treatment, moderate degrees of bradycardia require no treatment. In organic disease, especially where there is failure of compensation, it may and commonly does require cardiac tonics. In other cases where the etiology is not clear, we may resort to symptomatic treatment, here nitro-glycerine seems to have succeeded best. In the face of convulsive paroxysm or fainting attacks the hypodermic use of stimulants seems to be the best.

Dr. ADAMI—It is a difficult thing here to determine whether one is dealing with a mere mechanical condition, or some condition other than mere stenosis. Sometimes extreme cases of stenosis occur with a normal pulse, and, in a case like this, he would seek the explanation in something else than the condition of the valves. In this very curious case we must have as a cause something further than the condition of the valves; some disturbance of the nerves of the heart; some kind of irritation. But, as Dr. Lafleur has said, the condition is an extremely obscure one. Investigators of cardiac phenomena have ascertained that under certain conditions the perfect sequence of the auricular and ventricular systole may be disturbed; the ventricle may beat at half the normal rate, while the auricle continues its normal rhythm. As an explanation of this, someone recently investigating among the lower animals finds that there is a distinct wave passing from auricle to ventricle, and that the difference in time between these acts is represented by the amount of resistance obstructing the transmission of this wave. So that the reason why the ventricular systole is not simultaneous with that of the auricle is because a certain length of time is required for the impulse to travel from the auricular to the ventricular muscles. Now

in a case of this kind it is conceivable that some kind of a disturbance of the transmitting medium may exist by which the impulse is delayed in its passage, the transmission may be slower than normal, and as a consequence the contractions of the ventricle slower than those of the auricle, hence the bradycardia.

Dr. LAFLEUR said, in reply to a question asked by Dr. Mills, that his instructions were to take the temperature in the morning on arising; that at mid-day (whether this was done before or after the mid-day meal he was unable to say); and lastly in the evening after his dinner.

With regard to Dr. Adami's remarks about the rarity of finding a subnormal temperature in connection with bradycardia, this case is by no means in that respect an isolated case. The great majority of the cases summarised by Prentiss also showed subnormal temperatures. With regard to etiology he did not wish in any way to insist upon the mechanical idea as an explanation, but in some cases it seems conceivable that such may be, not the sole cause, but one of the causes.

Dr. WESLEY MILLS said that the reason he had asked the question, relative to the conditions under which temperature, etc., were taken, was that there might be no misapprehension by Dr. Lafleur with regard to subnormal temperatures. With the help of some of his present and past students he had recently been conducting some investigations on that subject, and found that if one takes temperatures a good deal, and takes them very frequently during the day, and of a good many different people, he will be surprised how often he gets below  $97^{\circ}$ , and also the number of people who have temperatures in that region at certain hours in the day. We have what are apparently subnormal temperatures existing as the normal condition of certain individuals, and that these individuals are by no means rare.

As regards the pulse, nearly every year some one comes to him and reports, either in himself or some acquaintance, a condition of bradycardia, so that like subnormal temperatures slow pulse is not so rare a phenomena as it was once thought; and that further its presence in an individual is compatible and concomitant with apparently good health.

Dr. Lafleur seemed to think that in venturing his suggestion as to a possible explanation in his case he was announcing a theory in direct opposition to his (Dr. Mills) views. He is not opposed to mechanical explanations as contributing factors. A few years ago mechanical explanations were the only ones; and it was as "sole causes" that he opposed them. In the present case, no doubt, the mechanical explanation is a link in the etiological chain, but it is only a link; and it only extends a certain length. Why should we rest content with the mechanical part of the explanation? A heart is a living thing composed of cells, which, while life is present, are continually subjected to a never ending and ever changing metabolism, and it is preposterous to explain the functioning of such an organ by hydraulics alone. Hydraulics may do for the larger arteries, but they are quite inadequate in the face of the complexity of the heart.

Blood pressure has to be taken into account in explaining the heart beat, as he has distinctly noticed, that in the fishes' heart, blood pressure had a great influence in the character of the beat. He referred to a case of a London physician, in whom the nervous system bore an important and clear relation to the rapidity of the beat. This man when working, found his pulse sink as low as forty. Then, of course, we must distinguish between these physiological and the pathological cases, so that bradycardia may mean very much, and it may mean but very little. There is a point brought out by the researches of Doctors Adami and Roy relative to the nutrition of the heart through the coronary arteries, and to some newly discovered nerves which regulate this nutrition, which he (Dr. Mills) would like to hear discussed at some future time.

Dr. LAFLEUR in replying had only to say that he alluded to the mechanical explanation of the problem not as any explanation of the work and results of Dr. Adami or his confrere, but solely with reference to those cases that had been reported lately, and which had been already mentioned. With regard to normal bradycardia, it is a phenomenon so well known that he did not think it worth mentioning; for instance, there is the oft spoken of case of Napoleon Bonaparte, the slowness of whose pulse has been a matter of historical

comment. In relation to the effects of study on the pulse, from observations on his own pulse, he was inclined to think that close study has a certain effect in reducing the rapidity of the heart beat, and in his student days, at the trying times of approaching examinations, he especially noticed were potent factors in bringing about such a phenomenon.

*Remarks on a Recent Epidemic of Typhoid Fever in Montreal.*  
—Dr. WYATT JOHNSON said that a good deal of attention has been attracted to the considerable number of cases of typhoid which have arisen, during the last three months, among the customers of a well known milk dealer here. This epidemic, if it might be called such, is not very extensive, not very serious as regards the number of deaths, although the proportion of mortality is quite up to the average in typhoid (3 in 20); so that the loss of life has not been sufficient to attract very great attention from the public, and it might pass unnoticed, were it not that it has brought out very strikingly some defects of our present sanitary system, and the modus operandi of our local health office. The more you investigate the case, the more it shows a lack of co-operation and a lack of intelligent investigation of these infectious diseases; and of course, what applies to this particular outbreak would apply to the outbreak of any other infectious disease, more especially to cholera. We are informed by the greatest authorities that there is a high probability of cholera this year becoming generally epidemic in America; and it behooves us, therefore, to be on the alert and see that no precaution is neglected which might spare us from the plague. Now, I think we are all agreed that the sanitary methods have greatly changed within the past few years, and that owing to better methods of research (especially as to infectious diseases) some form of laboratorial investigation is absolutely indispensable in any well equipped modern health office. It is possible of course to find out a great deal by examinations as to localities, and the run of cases; but, at the same time, there is a certain degree of certainty and permanence furnished by laboratory experiments not found in any other way. The condition of the city is simply this. They never attempt to look for the germs of any infectious disease, they never in-

investigate as to the locality and sanitary surroundings from which the milk is obtained. The milk is analyzed it is true, but only with a view to detecting gross adulterations and inferior quality, they are not in a position to do any more.

He called the attention of the society to this matter, in the hope that some of its members who have more experience than himself in health matters, will take some steps to bring about a more satisfactory state of affairs. The need of adopting some plan by which, when a case of infectious disease occurs in the city, the health authorities shall properly and scientifically investigate the same, is obvious in the light of our present knowledge of the etiology of these affections. At the present time the health department is much hampered in its work by the conflicting interest of the "powers that be." The city is rich, and they can afford to pay for the detection of contagious diseases. There are three special points in connection with this matter: (I) The health of the city is largely dependant on the health of the surrounding municipalities, and on this account he thought the business had better be done by the provincial board, whose jurisdiction would extend to these places. (II) Practitioners do not report their cases of typhoid as promptly as they should, and some apparently do not report them at all. Now it is very evident that unless practitioners reform in this respect, the efforts of any board of health to be thorough, will be of but little avail. They have no other way to find out suspicious cases, except through the doctors.

(II) The necessity of something being done in this respect within a reasonable space of time. As on our prompt and efficient organization will depend our prospect of being able to guard against cholera, the early recognition of cases affords the only chance of suppressing small outbreaks, and to recognize the disease early we must resort to bacteriological examination. The results of laboratorial investigation, are, as a rule, more satisfactory in the case of cholera than that of typhoid, because it can be done so much more speedily. With practice, cholera cases can be positively diagnosed in the course of from 24 to 36 hours, and of course that is a great advantage. The Provincial Board of Health have, of late years, been trying to get this matter on a proper basis. The late



Dr. R. L. MacDonnell, especially, tried to accomplish this purpose. It is thought that the society might join its voice to the demands of the Provincial Board of Health, passing resolutions, making suggestions that may seem proper, and in every possible way insisting upon the establishment of a laboratorial department at once for the bacteriological examination.

Dr. KIRKPATRICK stated that in the General Hospital in the winter of '90 and '91 an epidemic of typhoid occurred amongst the nurses and the employees. There were in all fourteen cases, five nurses, two cooks, a wardmaid, an orderly and a fireman. At the time of this outbreak the drainage system was found to be in remarkably good order, some slight defects found, however, were remedied. The milk supply was obtained from a man on the Longue Pointe road, who, it seems, was wont to purchase six or eight gallons daily to fill up the quantity required at the hospital, from a man on the same road, but nearer town. This latter milk was put into the kitchen for cooking purposes, a fact which was brought out by the subsequent investigation. An official examination was made of both places. The first place, that of the man who had the contract, was pronounced everything that could be desired, and no suspicion could be attached to it as the source of infection. Such, however, was not the case with the second place, that of the man who supplied the shortage in the required quantity. He was found to keep a dirty stable, cows in poor condition, cans under the same roof as the stable, and it was the custom to set them down on the dirty floor where the dogs were wont to run and gambol amongst them. The well was situated about 60 feet from the barn, and there was a strong suspicion that he obtained a good deal of his water from the river. Everything in the place contributed to fasten suspicion on this man's premises as the source of infection, and this suspicion was further confirmed later on in October by receiving a patient with typhoid who had been taking milk from this same individual. Yet owing to the imperfections in our methods of investigation we could do no more than suspect the real state of affairs. No positive proof could be adduced by the department whereby the guilt might be fastened on this man's place, and effort made to have him change his method of carrying on business.

Dr. J. C. CAMERON related a similar experience the profession had 15 or 16 years ago, and how futile were their efforts to get passed any remedial legislation. Although they succeeded in tracing some 30 cases to one milk supply, upon applying to the authorities to interfere in the matter, they were plainly told they were dealing with a large industry, one that involved a good deal of money, and unless there was a peremptory public demand behind them, one which was too powerful for them to ignore, they could not as public servants take on themselves to disturb it.

Now, it is possible for us to do more, we have now a provincial board which we had not then, but as regards the out-lying municipalities, the city health authorities might easily do a great deal. They might make it necessary for country people to obtain a license before selling milk for city use, and only grant licenses to those who kept their quarters in good sanitary condition. The city can exclude milk from places that will not submit to periodical inspection, and by these and similar measures they might easily obtain a fair control over the city milk supply.

But we must not expect that we are going to obtain such results by the mere passing of a resolution, we have to fight against a large and influential industry, and to do so successfully, we must have some system in our mode of attack. We must be prepared to go before the public, and work them up to a good, wholesome sound feeling in this matter, and, especially with the cholera scare as a lever, we may get them to decide whether their lives or the vested interests of the milkmen are of the most importance. (I) Insist upon the refusal of licenses to all milkmen who are not ready and willing at all times to have their places inspected. (II) To have the provincial authorities take the matter up and appoint a specialist for the bacteriological examination of milk. etc., so as to ensure the early detection of contagious disease. This, roughly speaking, is the programme we should set before ourselves to obtain, and it would be well to appoint a special committee to undertake the executive of the steps required in this direction.

Dr. F. W. CAMPBELL agreed with Dr. Cameron as to the difficulty of getting our legislators to move in such matters, unless a strong public opinion is first roused in that direction.

At the epidemic referred to by Dr Cameron our investigation was very satisfactory, we discovered the source of the epidemic. He saw a difficulty in approaching the council on this matter, for he did not think we would get them to attach another hand to the Health Committee. Our only hope lies in the Provincial Board of Health. At the present time this is a very intelligent board.

The President then nominated the following committee to draw up resolutions embodying the views of the society: Drs. J. C. Cameron, F. W. Campbell, J. G. Adami, Wesley Mills and D. McEachran.

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### Selections.

**Long (J. W) on Albuminuria; Its Relations to Surgical Operations.**—In a paper recently published on this subject Dr. Long reaches the following conclusions:

1. That healthy kidneys are almost never injured by ether or chloroform.
2. That when, the kidneys being healthy, renal disturbances from the use of an anæsthetic do occur, they are due rather to prolonged narcosis, exposure of the patient, or perhaps to the combined influences of the operation and the anæsthetic.
3. That a mild degree of albuminuria or nephritis, especially if recent, is not a contra-indication to the use of chloroform or ether.
4. That even in the presence of advanced and extensive renal changes an anæsthetic may be employed, provided the additional risk is explained to the patient or family.
5. That of the two anæsthetics usually employed, it is still a mooted question, except in obstetrical operations, as to which is the safer, so far as the kidneys are concerned.
6. That while it is by no means the rule, profound functional disturbances, and even organic lesions may be induced by an operation, apart from the influence of the anæsthetic.
7. That such renal changes are due to reflex action, or sepsis, or both.
8. That operations in certain regions, notably the abdomen,

the genito-urinary tract, the rectum, and the mouth, are especially liable to produce kidney complications.

9. That a healthy condition of the kidney minimizes, but does not entirely do away with, the dangers referred to.

10. That albuminuria is indicative of renal lesions, and should be regarded with distrust, but is not a positive contra-indication to an operation.

11. That paradoxical as it may seem, an operation will sometimes relieve an albuminuria due to acute affections.

12. That no surgeon is justified in undertaking an operation without first knowing the state of his patient's kidney's.—*New York Med. Exam.*, Sept., 1892.

### **Bond (R. I.) on Chewing-Gum in Fevers.**

—The salivary glands play quite an important part in continued fevers, yet they are not considered in the treatment of the case. One of the first and most important restrictions in the patient's dietary is to drop all solid food from the list at the physician's first request, and just then the salivary glands begin to lapse into a torpid condition which very often results in an inflammation and, finally, suppuration, and that disagreeable dryness to the tongue and fauces so uncomfortable to the patient. For the relief of this trouble I have found nothing of so much importance as some nice form of aromatic chewing-gum, which relieves the thirst and dry mouth, improves the appetite and digestion, and restrains nausea, if any. Hence some of the most disagreeable accompaniments of the disease are mitigated. I believe also that it materially aids the absorption of the medicine when the alimentary tract is so impaired by the incessant fever.

I do not claim originality in this treatment, although I have never found any reference to anything of the kind. However, it may have been regarded as too simple to need mention; still it is, in my estimation, quite important in any continued fever.—*N. Y. Med. Rec.*, Nov. 12, 1892.

**Grimsdale (T. B.) on Congenital Absence of the Peritoneum.**—Grimsdale recently exhibited an interesting case of this nature before the Liverpool Medical Society: The patient was a young woman, married about eighteen months, no pregnancy, menses practically

normal. From her marriage she had suffered more or less pain in the left iliac region, and a few weeks before coming under observation she fell on the stairs, striking the abdomen. Acute pain was felt at the time, but notwithstanding this she went out with her husband. Whilst out she was suddenly seized with such pain that she had to be taken home and put to bed. A short time after this she was admitted into the Hospital for Women under Dr. Grimsdale. From the time of her admission there was no pyrexia, nor was there any history of fever, but a cystic swelling as large as a foetal head was felt in the left iliac region. The patient had also slight exophthalmos and a small goitre. The abdomen was eventually opened, but no trace of peritoneum could be discovered. The intestines were, as far as could be observed, universally adherent, and had to be separated in the direction of the cyst. This was finally reached, and about a pint of clear serous fluid evacuated. One or two smaller collections were also emptied, and all washed out and drained. The patient made an uninterrupted recovery. He believed the case to be one of congenital absence of general peritoneum, similar to some that had been described.—*Eng. Med. Press*, Nov. 16, 1892.

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**AUTOPSIES AT CORONERS' INQUESTS.**

We have repeatedly called attention to the defective nature of the medical evidence given at inquests in connection with deaths supposed to be due to other than natural causes.

In particular, the tendency under the present law to hold an autopsy in only one out of every 10 or 20 cases investigated by the coroner is highly dangerous to the safety of the community. With the appointment of a new coroner in Montreal, it was understood to be the intention of the Provincial Government to place the matter upon a satisfactory footing and not only to allow the additional information furnished by autopsies to be availed of in every case where the circumstances demanded it, but further by appointing specially qualified experts to conduct these autopsies to ensure their being properly done in each instance.

We regret to find that this arrangement is far from being carried out at present. Autopsies are as rare as inquests are common, the reason alleged being that the expense of the additional fee for opening the body is too great.

The Quebec statutes provide a fee of five dollars for an external examination, and one of ten dollars for a complete autopsy. The latter sum is supposed, officially, to form such a tempting bait to medical witnesses that great care has to be taken to prevent them from insisting upon autopsies in too many cases.

Now the external examination of a body as usually performed in Montreal, is a matter requiring from five to ten minutes of the physician's time. No written report is required by law, and any guess, however wild, at the cause of death in-

variably satisfies the average coroner's jury. For actual time taken up by the technical work the physician is thus paid at about the rate of fifty cents to one dollar per minute in external examinations.

On the other hand, to make a complete autopsy requires usually, a couple of hours, at least, and a report has to be drawn up. When two hours work is performed for \$10 payment for time consumed in technical work, is only eight and one third cents per minute. It is clear that to a fairly busy man the rates of pay for the external examination is more profitable than that for autopsies and the medical witnesses appear to have very little financial inducements to perform autopsies in preference to external examinations.

The real facts are that the external examination is in most cases merely a formula to cover clinical evidence given by physicians who have attended the case during life and the facts adduced are rarely such as could be made out by inspection of the body.

This system of paying for one thing and receiving another is most irregular. Clinical evidence should be paid for as such, and not classed an external examination.

Two cases have recently come before the public in Montreal showing the absurdity of coroners' verdicts being given without the additional security of making an autopsy. In one instance an old man found dead in bed, was publicly declared by the jury to have "died from drink," when the cause of death was found (upon performing a private autopsy) to be pneumonia. In the other a verdict of manslaughter was found and the suspected person indicted and placed upon his trial without the cause of death being established by autopsy, although the sittings of the coroner's jury covered a period of four days and two adjournments were made.

Fortunately the medical witness examined obtained permission of the friends to open the body after the inquest was closed, and upon the result of the autopsy being explained at the trial, the judge felt justified in dismissing the case without calling for the defence, and stating that had the autopsy been ordered in the first place the case would never have come to trial at all. His comments upon the negligence of the jury were short but pungent. We are curious to learn what will

be the next vagaries of the "intelligent jurors." The mere retirement of Coroner Jones does not seem to have been all that was necessary to perfect the coroner system in Montreal.

It is not, however, enough that autopsies be made—they must be made properly. Following the two cases just mentioned, came the Clarenceville tragedy at Lacolle, P. Q., when three recently killed bodies were discovered in a burning house. Marks of violence galore were present in the shape of cut throats, and bullet wounds. The autopsies were made by two local medical men under the direction of the coroner, himself a medical man. With this imposing array of medical talent one is pained to find that, after the conclusion of the autopsies *the undertaker* in washing up the bodies found a bullet wound which had been overlooked by the doctors and found the bullet! What confidence can be placed in an autopsy so carelessly made that a perforating wound of the chest is allowed to pass unobserved?

This shows the imperative necessity of some detailed official instructions for the guidance of those performing medico-legal autopsies. Some definite schedule should be followed just as in the case of life insurance examinations. Had the physicians been compelled to state categorically in giving their report that the clothing had all been removed and every part of the body examined, we doubt if the undertaker would have had much left him to discover.

Supposing through the exertions of the detectives, someone is brought to trial, will this autopsy, prove a source of weakness or of strength in the case, In too many cases where convictions have, (we hope rightly) been brought about, it must be admitted that this happens rather in spite of the weakness of the medical testimony than on account of its clearness and accuracy.

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#### PRIVATE HOSPITALS, A CORRECTION.

The editorial in our February issue against the advertising, by doctors, of their private hospitals has called forth an able article on these institutions by the *Canada Medical Record*, in which, however, the point of our article is entirely overlooked. The article in question was directed solely and entirely against the advertising. Having pointed out the mistake we hope the Editor will direct the thunder against the evil complained of.



## REPORT OF THE LEPROSY COMMISSION.

This commission, which was composed of three commissioners appointed by the College of Physicians, the College of Surgeons and the Executive Committee of the National Leprosy Fund and two members of the Indian Medical Service, have completed their work and issued their report. The English members of the commission were Drs. Beaven Rake, Buckmaster and Mr. A. A. Kanthack, and associated with them were Surgeon-Majors A. Barclay and S. J. Thompson, of the Bengal Medical Service.

The commission remained in India for about twelve months, making the most careful enquiries and availing themselves of all opportunities of studying the disease.

An abstract of the report has been published in the *British Medical Journal*, and from it we take the following conclusions arrived at by the commission.

It is shown by the figures of the census that, as the disease attacks all tracts of land more or less, no generalizations can be arrived at regarding the geographical distribution.

The leper population has remained stationary, there being no increase in the relative number of cases, but rather the reverse.

Whenever cholera is endemic, leprosy is prevalent, hence, as there is no causal connection between the two, there must be present in these localities some permanent conditions predisposing to leprosy. There is also evidence that leprosy is more common in the poverty-stricken districts.

The natives are most prone to the disease, and the unmixed European the least.

The statement of the anti-vaccinationists that leprosy has been spread by means of vaccination is disproved by the fact that during the last thirty years leprosy has not increased, also that in the bacterioscopic examination of vaccine lymph, in no case were leprosy bacilli undoubtedly found, although, in six out of ninety-three observations, suspicious rods, etc., were seen.

Regarding hereditary transmission the conclusion arrived at is: "That leprosy in India cannot be considered a hereditary disease, and they would even venture to say that the evi-

dence which exists is hardly sufficient to establish an inherited specific predisposition to the disease by the offspring of leprous parents to any appreciable degree." They also produce strong arguments against any direct hereditary predisposition.

Although leprosy must be classed among the contagious diseases, the risk of contagion is so small that it may practically be disregarded for, in no case could contagion, or the possibility of it, be demonstrated free from objection, the disease does not spread sufficiently among the members of a family, or from husband to wife, and leper communities have never acted as centres of contagion.

Defective hygiene, either personal or general, is a probable predisposing cause, although it does not originate leprosy.

The bacilli have never been found in fish, and many cases of the disease have occurred among certain castes, the members of which are forbidden to eat fish, so this theory of the causation is entirely rejected.

The question of the influence of salt on the spread of leprosy is discussed, but as a few pence will purchase a year's supply of this necessity the price of it cannot have much effect on the spread of the disease, especially as the increase or decrease in the price of salt by no means tallies with the geographical distribution of the increase or decrease of the disease.

They are of the opinion that leprosy is not a form of syphilis as lepers may acquire syphilis subsequently to acquiring the leprosy.

There is no evidence to warrant a belief in a connection between water, either for bathing or drinking, and the spread of leprosy.

The most valuable medicinal agents so far employed are arsenic and chaulmoogra oil. Surgical treatment may be applied as to any other patient.

Tuberculin is of no therapeutic value, and is not altogether free from danger.

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#### THE ONTARIO MEDICAL COUNCIL.

The dispute which has been going on for some time regarding representation of the profession on the council has been settled at last. The *Canada Lancet* sums up the changes in

the Medical Act as follows: (1) The election of five additional territorial representatives, making the number seventeen instead of twelve as formerly. (2) The members are to hold office for four years instead of five. (3) The taxing of the profession is to be relegated entirely to the territorial representatives. (4) The next election is to take place in 1894.

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### Obituary.

—A. Cantani, of Naples, died May 1st, aged 56 years.

—Dr. Marcus Beck, Professor of Surgery at University College, London, died from diabetic coma on May 21st.

—J. S. Schnitzler, M.D., Professor of Diseases of the Throat and Chest at the Polyclinic of Vienna died on May 2nd of erysipelas.

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### Personal.

—The President has appointed Dr. Geo. M. Sternberg to be Surgeon-General of the United States Army.

—Dr. A. M. Cowie (McGill, '87) received his certificate from the California State Board of Examiners at their meeting held March 7th, 1893, and has settled in San Diego.

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### Medical Items.

—The number of successful candidates at the last matriculation examination of the University of London was 527.

—Where you are in doubt as to the diagnosis, examine the urine; and where you think you know, examine the urine.

—According to English law, if a house is let, furnished, it is implied that it is in sanitary condition, and the tenant may obtain damages for illness resulting from the unsanitary state of the dwelling. If it is let unfurnished, then, except under certain circumstances, the owner is not supposed to tacitly guarantee its fitness for habitation.

—Several druggists in the Eastern Townships were recently fined for illegal selling of liquor, on account of dispensing an elixir patented by a physician, and containing gin, brandy or whiskey as the principal ingredient.