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A CASE OF CONSERVATIVE CÆSAREAN SECTION.*

BY

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Professor of Gynecology in McGill University ; Gynecologist to the Royal Victoria
Hospital, Montreal,

With Report of Previous History

BY

DAVID J. EVANS, M.D.,

Lecturer in Obstetrics, McGill University, Montreal.

On September 24th, 1900, I was called by Dr. Morphy of Lachine to see Mrs. R. S., aged 29 years, 11para, who was shortly expecting her confinement. Dr. Morphy informed me that two years previously he had delivered her of twins at the seventh month of pregnancy, after performing version. The extraction in each case was only accomplished with the greatest difficulty, and both children were born dead.

On examination, I found the patient to be an undersized, well-nourished woman. She presented no evidence of rachitis in the long bones of the limbs or in thorax or head. The heart and lungs were normal. The abdomen was greatly distended, the fundus uteri reaching to the ensiform cartilage. The umbilicus was prominent, the flanks full, and the skin over the abdomen presented the usual pigmentation and *lineæ albicantiæ*. Fœtal movements were observed.

On palpation, the excavation of the pelvis was found to be unoccupied. The fœtus was in an oblique position, the head resting in the left iliac fossa, while the breech could be felt at the fundus to the right of the middle line. The fœtal back was directed posteriorly, which would account for the fact that at no time could the fœtal heart sounds be heard in spite of repeated auscultation.

Pelvimetry.—The pelvic measurements were as follows:—A. Il., 11 inches; Ii. Il., 10½ inches; Ext. conjugate, 6½ inches; Diagonal con-

* Read before the Montreal Medico-Chirurgical Society, Oct. 19, 1900.

jugate, $3\frac{1}{2}$ inches; Conjugate vera, 3 inches (estimated). By vaginal palpation the promontory could be easily reached. The sacral ala projected forward into the brim, thus causing a sharp bend in the posterior part of the iliac bones. The lower part of the sacrum and coccyx were sharply bent and projected forward into the pelvic cavity. The pubic bone was thickened in its upper part, further tending to obstruction of the pelvic inlet.

Diagnosis.—A diagnosis of flat rachitic pelvis with marked obstruction of the inlet, was made. An attempt was made to bring the foetal head into position over the pelvic inlet but without success, as the head seemed to be particularly large.

In view of the peculiar projection into the brim of the ala of the sacrum and the posterior parts of the iliac bones, and the sharp forward bend of the lower part of the sacrum and coccyx, it was deemed impossible to deliver the child through the natural passages, and therefore it was thought best to recommend Cæsarean section in preference to symphysiotomy. Accordingly, that afternoon the patient was removed to the Royal Victoria Hospital and placed under the charge of Dr. William Gardner.

Report of the operation.

The case was ideally favourable for the saving of both mother and child and conservation of the uterus. The woman was pregnant to full term and had been examined only by Drs. Morphy and Evans besides myself, in each case presumably with aseptic precautions. She was admitted to the gynæcological ward of the Royal Victoria Hospital on the evening of one day. At four o'clock the next morning labour had commenced. Fœtal heart sounds could not be heard, but movements were unmistakable. At eleven o'clock of the morning of the same day when operation was commenced, the os was of the size of a silver dollar. No attempt of any kind to deliver had been made and the temperature was normal. The operation was thus, in the full sense of the word, elective. I was most ably assisted by my colleague, Dr. Garrow of the Surgical Department, and Dr. Casselman, my House-Surgeon.

The incision in the abdominal wall, six or seven inches long, was two-thirds of its length below and the other third above the navel. In doing this my experience amply bore out that of others—how easy it is to wound the uterus. One comes unexpectedly soon through the abdominal wall. Palpation before operation led to more than a suspicion of anterior implantation of the placenta. Palpation of the exposed uterus showed that this was beyond a doubt. Statistics show this position of the placenta in 50 per cent. of the cases.

Dr. Garrow making pressure on the abdominal walls around the uterus,

a six-inch incision was made in the anterior abdominal wall. Dr. Casselman was directed to control by finger pressure any large bleeding points and, if necessary, to compress the uterine arteries by grasping the cervix. The incision exposed the placenta. It was rapidly peeled off to the right, the membranes ruptured, the child's feet grasped, and extraction effected. The cord was pulsating strongly. It was clamped by two artery forceps and divided between them. The child was skillfully resuscitated by Dr. Evans.

The uterus was now delivered through the incision. It did not contract satisfactorily and, as bleeding was going on, the placenta was detached and extracted, and kneading and friction of the uterus were kept up while the uterine sutures were being put in. But the womb did not contract until hot water had been dashed over it and normal salt solution had been injected under the breasts. The loss of blood was somewhat alarming, and I thought it might be necessary to amputate the uterus to prevent the woman from bleeding to death.

Interrupted silk sutures, a centimetre apart, were used to close the uterine wound. On the serous surface the needle was entered about a quarter of an inch from the edge of the incision and brought out just short of perforating the mucosa. Each suture was tied as soon as passed. After cleansing the abdominal cavity, the abdominal wall was closed by silk-worm gut sutures through all the layers.

Recovery though complete was tedious. About the ninth day the temperature rose a little and the right thigh and leg became painful in the course of the saphenous vein, but there was no swelling. A little later a small indurated, tender mass appeared inside the brim of the pelvis on the right side. At the examination of the woman before her discharge all morbid signs and symptoms had disappeared. The uterus had undergone complete involution and was movable.

The child was suckled throughout and thrived perfectly.

In reflecting on the events of the operation some thoughts are uppermost. The fact that the application of hot water was promptly followed by contraction of the uterus, seems to favour the idea that it might have contracted sooner if it had been kept inside the abdominal cavity while the incision was being sutured. The anterior implantation of the placenta doubtless conduced in a measure to the free bleeding. The incision of the uterus here must have interfered with as complete contraction as elsewhere. The advocates of Fritsch's fundal incision would doubtless find in this case a favourable argument. I have no experience of it, but in the next case of similar position of the placenta I shall be disposed to adopt it.

In my experience of Cæsarean section this is the first case indicating,

or rather I should say demanding, conservative methods. I am inclined to think it is the first successful conservative Cæsarean section in this city, if not in the Dominion. If I am correct, the fact speaks volumes for the rarity of those conditions of impaired nutrition which bring about contracted pelvis. This woman had lost all her previous children and was naturally anxious for offspring. The fact that she is left in a condition for subsequent pregnancies is naturally a matter for satisfaction to the operator if not to the patient. In watching the case one could not help seeing that the sum total of suffering was much less than in normal labour in a normal condition of the birth-canal.

[The discussion on this case is reported at page 949.]

A CASE OF PORRO-CÆSAREAN SECTION IN WHICH BOTH MOTHER AND CHILD WERE SAVED.*

BY

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The patient upon whom the Porro-Cæsarian section was performed is aged 32 years. She was born in England but has lived in Canada and the United States since she was 19 years old. She has been married for fifteen years and during that time has given birth to three full-term children. The first labour was instrumental, the child being large, well-developed and healthy. The second child was delivered without assistance but was born dead, the cause of its death being unascertainable. The third child was delivered by Porro-Cæsarean section on September 24th, 1900.

Menstruation began when she was fourteen years old and appeared every 28 days, each period lasting three or four days for the first five years, but for eight days more recently. The flow has always been profuse but there have been no floodings. Her last period occurred in December, 1899, and was the same as usual. The patient usually had pelvic pain for half a day, the pain beginning just before the flow would appear. For the last twelve years the patient has suffered from a profuse leucorrhœa.

Present Illness.—On December 20, 1899, the patient had her last menstrual period. She was quite well until early in May, when she was violently shaken while standing up in a street car. She was suddenly seized with severe pain in the right iliac region, but was able to continue her journey in the car and walk about half a mile to her home. She continued her work as a weaver during the following week, at the end of which time, however, the pain (which had been continuous since its first onset) became so severe that she was confined to her bed, where she remained for two weeks. While in bed a lump the size of a hen's egg appeared in the right groin but gradually disappeared in about three weeks from its first being noticed. From this time up to two months ago the only pain felt by the patient was the one in the right side, but at this time she was suddenly seized with pains, which started in the back from whence they radiated down into the pelvis. These resembled

* Read before the Montreal Medico-Chirurgical Society, October 19, 1900.

labour pains and were intermittent in character. These pains continued for about one week but there was no discharge of blood.

From the cessation of these pains until September 22nd, the patient felt fairly comfortable but on the morning of the above date she was seized with pains, similar to those which she had felt before, and which she considered to be labour pains. The doctor, who was now called, diagnosed some abnormal condition to be present and sent her to the Montreal General Hospital where she was admitted to Ward G, but her pains had now ceased.

On examination of the abdomen the usual signs of a uterine pregnancy were made out, except that a fluid wave impact across the abdomen could be obtained with exceptional ease. The child was lying transversely with the head to the left. The fetal movements were very vigorous. The heart beats were 130 to the minute.

Vaginal examination disclosed a laceration of the perineum with some prolapse of the vaginal walls. The cervix was greatly elongated and very soft (as in pregnancy at term) and was the seat of a bilateral laceration. The external os was quite patulous, but on trying to pass one's finger high up, the cervical canal was found to be blocked by a hard mass which encroached on it from the left side. In the left fornix a hard mass the size of an orange could be felt. It was apparently firmly fixed in the pelvis.

The patient was then sent over to the Montreal Maternity Hospital where Dr. J. C. Cameron kindly saw her and confirmed my diagnosis of an intra-uterine pregnancy, near full-term, complicated by a pelvic tumour.

As the pelvic canal was completely closed by the tumour, which could not be pushed up out of the road, it was decided to remove the foetus through the abdomen and the patient returned to the General Hospital for that purpose.

After the usual preparation of the abdomen, Drs. William Gardner and J. A. Springle assisting, an incision five inches long was made in the middle line, beginning about two inches below the umbilicus and was continuing around the left side of this structure. Upon entering the peritoneal cavity the uterus was encountered at once. The abdominal walls were kept pressed close against the uterus and two hot aseptic towels were placed between the uterus and the intestines so as to prevent soiling the cavity. As the exact site of the placenta could not be ascertained, an incision $4\frac{1}{2}$ inches long was made in the middle line, the lower end terminating just above the contraction ring. On dividing the uterine mucosa the placenta was found to lie immediately beneath the incision. It was therefore separated towards the left until the

membranes were exposed. These were torn through and the waters allowed to escape. The feet of the child were then grasped and the foetus so delivered through the incision, after which the cord was clamped in two places and divided. The placenta and membranes were now quickly stripped off and removed, the uterus being packed with hot towels which caused it to contract nicely. This, aided by pressure on the broad ligaments, entirely controlled the hæmorrhage. On account of the presence of a submucous fibroid the size of a small hen's egg, together with larger ones, it was decided to remove the uterus, which was done by ligating and dividing off the broad ligaments, dissecting the bladder off from the anterior surface of the uterus, isolating, ligating, and dividing each uterine artery, beginning with the left, and then dividing across the cervix. After covering the stump with peritoneum the abdomen was flushed out with normal saline solution, some of which was left in the cavity, and the wound was closed.

As soon as the umbilical cord was divided the child was handed to Dr. J. C. Cameron, who kindly took charge of it from then on. It was found to be very pale and to require resuscitation, but artificial respiration was successful in speedily producing vigorous signs of life.

I am glad to be able to report that both mother and child have made excellent recoveries, although that of the mother was slightly retarded by a sharp attack of bronchitis. She sat up in a chair yesterday (October 18th), and will leave hospital in a very few days.

This case was an especially suitable one for this method of delivery. Thanks to the care and forethought of the patient's physician, she was in the hands of the operator before she had been exhausted by the pains of labour, or before the passages had been rendered liable to infection by numerous examinations or ineffectual attempts at delivery *per vias naturales*, and so we were enabled to select our own time for operating. It was thought by the physician who first saw her that the condition might possibly be one of extra-uterine gestation at term, being misled, I presume, by the history of sudden onset of pain at the end of the fourth month of pregnancy, followed by the appearance of a small tumour in the side on which the pain was felt; by the existence of a hard rounded mass continuous with the cervix, and which felt somewhat like the fundus uteri lying in the left fornix; and by the thinness of the sac containing the foetus, as evidenced by the ease with which the fluid wave could be felt and the foetal parts made out. The evident rhythmic contractions and relaxations of the foetal sac, however, were proof positive of the intra-uterine nature of the case as they never occur in the case of an ectopic gestation.

It may be asked why time was taken up during the operation in separ-

ating and removing the placenta and membranes when the uterus was subsequently removed. The reasons are twofold. *First*, the placenta was partly separated while exposing the membranes and bleeding was continuing from the partially divided vessels, which complete separation would stop; and *secondly*, it was thought possible at first to enucleate the tumour and leave the uterus in place. This procedure was afterwards deemed inadvisable on account of the extra time which would be occupied.

According to Howard Kelly the indications for a Porro-Cæsarean section are :—

- (1) Expected sepsis.
- (2) Cervical cancer. That this is not always an absolute indication for a Cæsarean section was well illustrated by a case which I saw some years ago in consultation with Dr. D. F. Gurd. The patient was pregnant at term, and the cervical walls were so infiltrated with cancer that the pelvic canal was apparently almost occluded by the growth. Cæsarean section was advised, but was refused. Dr. Gurd subsequently delivered the patient after an apparently normal labour.
- (3) Myomata blocking the pelvis and non-removable by myomectomy.
- (4) Extensive atresia of the vagina.
- (5) Bilateral ovarian tumour with no healthy tissue discoverable.
- (6) Uncontrollable hæmorrhage from the placental site, but the number of cases where this is necessary may be reduced by avoiding the use of the temporary elastic ligature around the cervix or by ligating one or both uterine arteries.

The statistics of the results of Porro's operation are misleading, as the majority of writers include operations which were performed before the general use of antiseptics, as well as those which have been done under the most approved aseptic technique, which manifestly tends to give the operation a reputation for danger which at the present day it does not deserve.

In "Playfair's System of Medicine," published in 1896, Thornton says that "some 250 cases of this operation have now been recorded with a maternal mortality of about 50 per cent."

R. P. Harris, of Philadelphia, tabulated, up to 1885, a series of 164 cases (three of the patients were moribund at the time of operation) with a maternal mortality of 58 per cent., but from 1886 to 1889 (inclusive), 158 similar operations gave a maternal mortality of only 29 per cent., this marked improvement being due principally to the improved technique of abdominal surgery.

In 1895, Grandin and Jarmin recorded a maternal mortality for Porro's operation of 25 per cent., and of the Sænger-Cæsarean of 10 per

cent. From the above figures it is evident that Porro's has come to be a sufficiently safe operation to compete with the much more repulsive proceeding of embryulcia, especially where the child is living.

The following is the report upon the uterus and tumour kindly furnished by Dr. H. R. D. Gray, Resident Pathologist to the Montreal General Hospital.

The uterus is large, measuring from the fundus to the cervix 14.5 c.m., from side to side 12 c.m., and from fundus to the lowest portion of the tumour 24 c.m. The placental site is easily defined. The walls are thick, firmly contracted, and literally filled with myomatous tumours of different sizes. The largest of these is situated behind and slightly to the left of the cervix, which is represented in the specimen by an irregularly shaped opening admitting the index finger. This large mass has the following dimensions:—From above downwards towards the vagina it measures 9 c.m., its lateral diameter equals 3.8 c.m., and the callipers, when placed in the antero-posterior diameter, register 3.5 c.m. Numerous other distinct tumours are made out, they are all intramurally situated and vary in size from that of a large walnut to that of a pea. [The discussion on this case is reported at page 949.]

CHOLECYSTITIS COMPLICATING TYPHOID FEVER.*

BY

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As compared with a few years ago, judging by available reports, this complication of typhoid fever is now being recognized with much greater frequency, and the attention of this society, so far as I have been able to ascertain, has been engaged with this topic on but one occasion, when, about three years ago, Drs. Martin and Keenan reported a fatal case of cholelithiasis complicating typhoid fever. Since that time opportunity has been afforded us in the wards of the Royal Victoria Hospital of observing at least six cases, four of which are briefly sketched in these notes from the cases of typhoid fever treated this year.

The literature upon this subject has been so recently and so ably reviewed by different writers, who have also made very valuable contributions to our knowledge both in its clinical and bacteriological aspects, that but little remains to be said in this connection more than to mention the names of those who have thus rendered such service to the profession. In 1897, before the American Association of Physicians two important papers were read bearing upon this complication of typhoid, the one entitled, "Hepatic Complications in Typhoid Fever," by Dr. Osler, the other by Dr. Mason on "Gall Bladder Infection in Typhoid Fever." Since then in 1898, Dr. J. M. DaCosta and Dr. C. N. B. Carnac have separately reported cases and reviewed the subject in a very thorough manner. In addition to these articles appearing in 1898, Dr. Keen's book "On the Surgical Complications of Typhoid Fever," was quickly followed in 1899, by Dr. H. A. Hare's book on the Medical Complications of this disease. In these one may find all that seems, at present at least, to be of much importance on this subject.

From a perusal of these papers and books one wonders that the complication is so rare and cannot refrain from expressing some surprise, in view of our recent findings, when Dr. Mason states that the records of the Boston City Hospital, so far as he is aware, contains but three other cases of this complication in typhoid fever besides the one he reported at the time. Undoubtedly, as Hagen Müller says, it will be more frequently observed when attention is awakened to the subject.

It is now generally recognized, thanks to the work of Chiari, Dupré,

* Read before the Montreal Medico-Chirurgical Society, November 2, 1900.

Hagenmüller, Gilbert and Girode and others that the gall bladder of typhoid patients is very commonly infected by typhoid bacilli, and Councilman, in discussing Mason's paper said, in speaking of this form of infection, "I have come to regard the gall bladder as one of the surest places to obtain a pure culture of this organism."

Two of the cases which are here sketched as briefly as is considered consistent with clearness, were under my own care in the Royal Victoria Hospital. For cases iii and iv, I am indebted to Dr. Martin who has very kindly given me permission to thus make use of them.

Case I.—H., a student, aged 28 years, was admitted on October 11th, 1899, on the seventh day of the disease. From his complaints and in his description of the onset of the illness, and from his condition on admission, typhoid fever was suspected. During the following nine days rose spots appeared, the spleen became palpable and the Vidal reaction became positive. The patient was free from abdominal pain and tenderness. The temperature during this period varied from 99° to 102.1-5° F., at no time becoming normal. Late in the afternoon of the seventeenth day of the disease the patient complained of abdominal pain which he referred to the middle line about two inches below the ensiform cartilage and later, when it had increased in severity, to the right side of the abdomen, just beneath the ribs in the nipple line where slight tenderness was present. At 9 p.m. nausea and vomiting set in quickly followed by a severe rigor fifteen minutes in duration, after which the temperature rose to 104° and by 10.15 p.m. to 105°. Profuse sweating followed. Just below the costal margin and extending downwards on the right side there was tenderness and rigidity but no mass was palpable. A second rigor occurred during the night and then the patient was comparatively comfortable, the temperature falling to 99° in the next ten hours. The pulse rate during this period from the onset of severe abdominal pain varied but slightly from 70 to 104. On the following day a distinct icteroid tint was detected in the conjunctivæ and skin, the urine contained bile and on the 23rd day the stools were clay coloured. During the next few days the tenderness disappeared from the abdomen, the jaundice became less marked, the pulse ranged from 76 to 90 and the temperature rarely went beyond 103°. On the 27th day of the disease—ten days after the onset of the abdominal pain,—a profuse perspiration occurred; on the 29th day chilly sensations were complained of, and pain recurred in the right upper quadrant of the abdomen. Vomiting once again set in and tenderness became again pronounced.

The examination of the blood showed slight leucocytosis 10,000 white corpuscles per c.cm. Marked resistance with great tenderness was found over the region of the gall bladder and by gentle palpatory

percussion one could outline an area continuous with the lower border of the liver dulness extending downwards from the ninth costal cartilage about two and a half inches towards the umbilicus.

The diagnosis of cholecystitis was made and operation was performed by Dr. Bell on the 35th day of the disease, eighteen days after the onset of the first manifestation of this complication. At the operation, the details of which it is not necessary here to relate, the following conditions were found. The surface of the liver adjacent to the gall bladder was covered with inflammatory lymph. The gall bladder was enlarged somewhat and adherent to the under surface of the liver. Its wall, at three different parts, was dark and gangrenous and at two small areas it seemed as if the slough involved the whole thickness of the wall. The contents of the gall bladder consisted of dark bile-stained purulent fluid and a calculus the size of an almond with two smaller irregular ones. After removal of these the progress of the case was favourable and thoroughly satisfactory. Cultures of fluid taken from the gall bladder showed pure growth of typhoid bacilli.

Case II.—G. G., female, aged 57, was admitted July 30th, 1900, on the seventh day of typhoid fever. The case at first was marked by no unusual event and the febrile state subsided on the 34th day of the disease. Then followed a period of ten days during which the temperature was practically normal, the highest point reached being 99.8°F., while the daily variation was less than two degrees. On the 45th day the temperature at its lowest point was 99°. This marked the beginning of a relapse which continued for seventeen days, the maximum temperature of 103° being reached after a gradual ascent of five days. On the 61st day of the disease the relapse ended and for the next ten days the temperature was subnormal. Suddenly on the morning of October 3rd, the 72nd day of the disease, the temperature ran up to 101.5° and pain with tenderness was experienced in the epigastrium. No tumour was palpable. On the following day a slight chill occurred in the morning, a subicteroid tint was observed over the surface and epigastric tenderness was elicited on palpation. There was no bile found in the urine at any time. The temperature fell to normal at the close of this day, October 21st, and but little was thought of the complaints of pain until three days afterwards, when the temperature rose from 97.5° to 99.5°, pain was again complained of and a mass was discovered in the right upper quadrant. It occupied a position a little above and to the right of the umbilicus. It was about two and one-half inches long by an inch and one-half wide, extremely tender, gave a dull note on percussion and was freely movable on inspiration. (This was best seen when under the anæsthetic as during consciousness the breathing was thoracic).

It could not be definitely traced to the liver as one found between the tumour dulness and that of the liver a small area of resonance. However, it was thought to be a distended gall bladder and after consultation with Dr. Bell the case was transferred to the surgical ward.

On opening the abdomen the gall bladder, which was adherent to the parietal peritoneum, was found distended, tense, considerably enlarged and of a dark purplish colour with here and there upon its peritoneal surface, especially towards the inner (left) side, several yellowish necrotic areas about the size of peas. The contents of the bladder consisted of blood clots, lymph, bile and six dark rough stones. The patient has made satisfactory progress since this operation. Cultures from the bladder contents demonstrated the presence of typhoid bacilli.

Case III.—Mrs. L. H., aged 38, was admitted on the sixth day of her illness. Early during her sojourn in the hospital albumin was detected in the urine with a few granular and hyaline casts. The albumin subsequently disappeared. She had passed through the fourth week of a typical attack of typhoid fever and her temperature curve was turning towards normal when on the 30th day of the disease she became nauseated and on the following morning she vomited three ounces of greenish fluid, and complained of pain and tenderness over the region of the gall bladder. The liver was palpable and dulness extended below the costal margin. The temperature was two to three degrees higher during the next four to five days and did not regain the range pursued previous to this attack until ten days had elapsed. Icterus of the skin and conjunctiva, biluria and acholic stools together with the signs already given, clearly indicated that the gall bladder and gall ducts were affected. No operative interference was deemed necessary, recovery from this condition being gradual and satisfactory. From this the scene soon shifted to a picture of bronchitis and myositis involving the left triceps. Subsequently cutaneous abscesses developed. She made a good recovery from all these complications of typhoid fever, and after a normal temperature of about five weeks she was discharged on the ninety-third day from the beginning of her illness.

The case illustrates a severe general infection, affecting kidneys, gall bladder and ducts, bronchial mucous membrane, muscle, and skin.

Case IV.—W. L. J., male, aged 29 years, was admitted on the fourth day of an attack of typhoid fever which was of moderately severe type. The temperature became normal on the 25th day. The patient complained from time to time during his illness of abdominal pain which was sometimes cramp-like and associated with some degree of tympanites. Early on the 28th day of his illness and after four days of normal temperature, he experienced slight cramps in the abdomen. Later in the

day he had pain in the right upper quadrant near the epigastrium. Early in the morning of the 29th day he suffered with severe pain to the right of the epigastrium and his temperature rose from normal to 102.3-5° F., pursued an irregular course and became normal on the seventh day after the onset of the cramp-like epigastric pains. A tumour developed in the right upper quadrant of the abdomen becoming both visible and palpable. It was very sensitive on pressure. Although bile was found in the urine, the colour of the skin was but faintly icteric. Operative interference was contemplated but in the meantime the tumour gradually disappeared and the pain and sensitiveness abated. He made a good recovery.

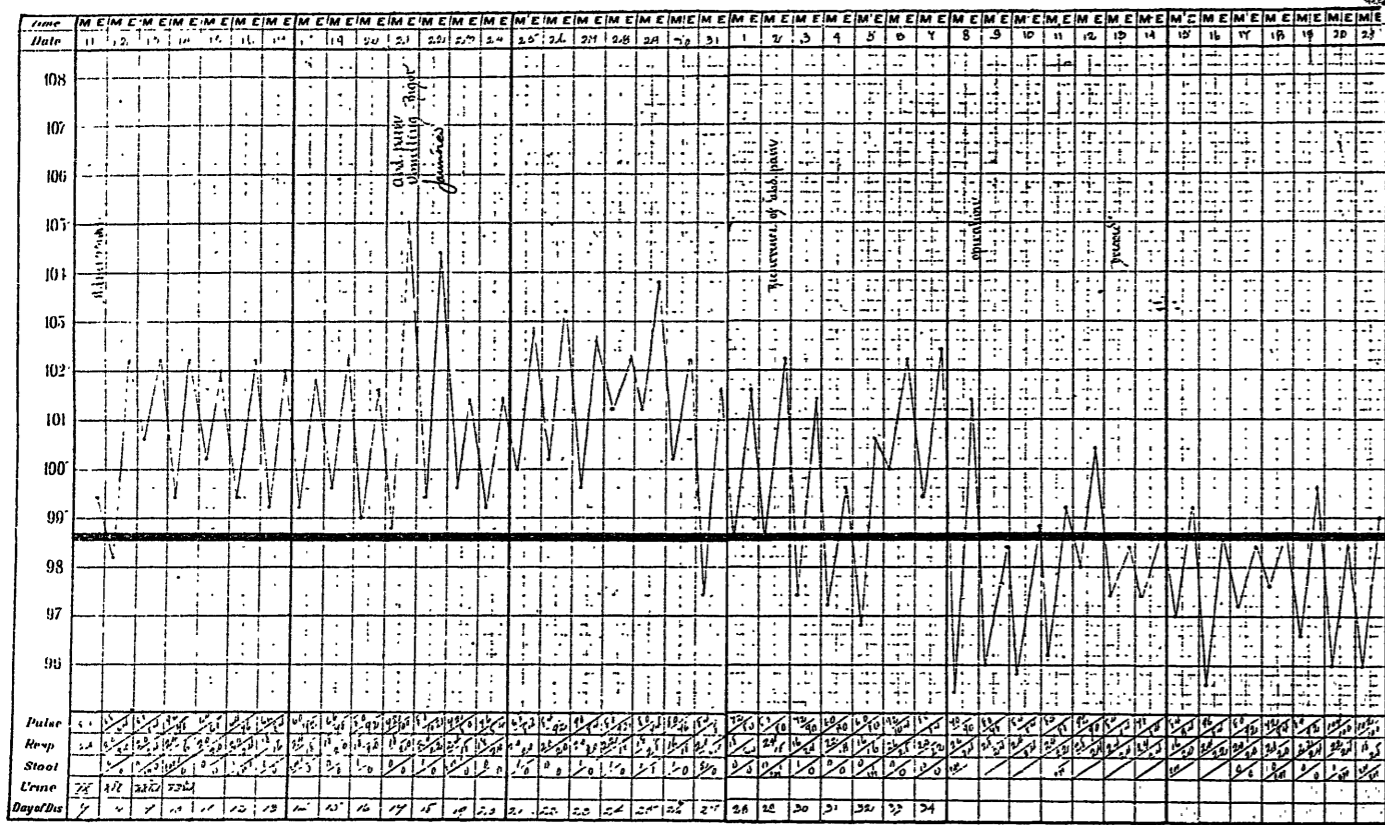
Turning to a brief analysis of our cases it may be said that the diagnosis of typhoid fever was undoubted, the Widal reaction having been obtained in each case, and the ordinary clinical features in themselves were sufficiently clear in their indications to determine this diagnosis. It has been seen that two were women and two were men. The ages of the men were 28 and 29 years and the women were 35 and 67 years old. The time of onset of this complication was rather variable:—In case i, on the 17th day, in case ii, on the 72nd day and ten days after a relapse. Cases iii and iv were on the 30th and 28th days respectively.

The onset was marked by nausea and vomiting in three cases, while a severe rigor with recurrence and high temperature with vomiting indicated the gravity of the condition in case i. Pain was a prominent feature of each of the cases. It was referred to the epigastrium and right upper quadrant beneath the ribs. Jaundice was pronounced in cases i and iii. It was slight in case ii, while case iv showed but a tint of yellow. Bile was in the urine of three patients and was absent in a third. The stools of two patients were clay coloured. Tumour was discovered definitely in all the cases. Let it be understood, however, that this question of gall bladder enlargement in two cases was settled only after most careful percussion and in one instance only after palpatory percussion was resorted to. In two cases the tumour was readily seen and felt.

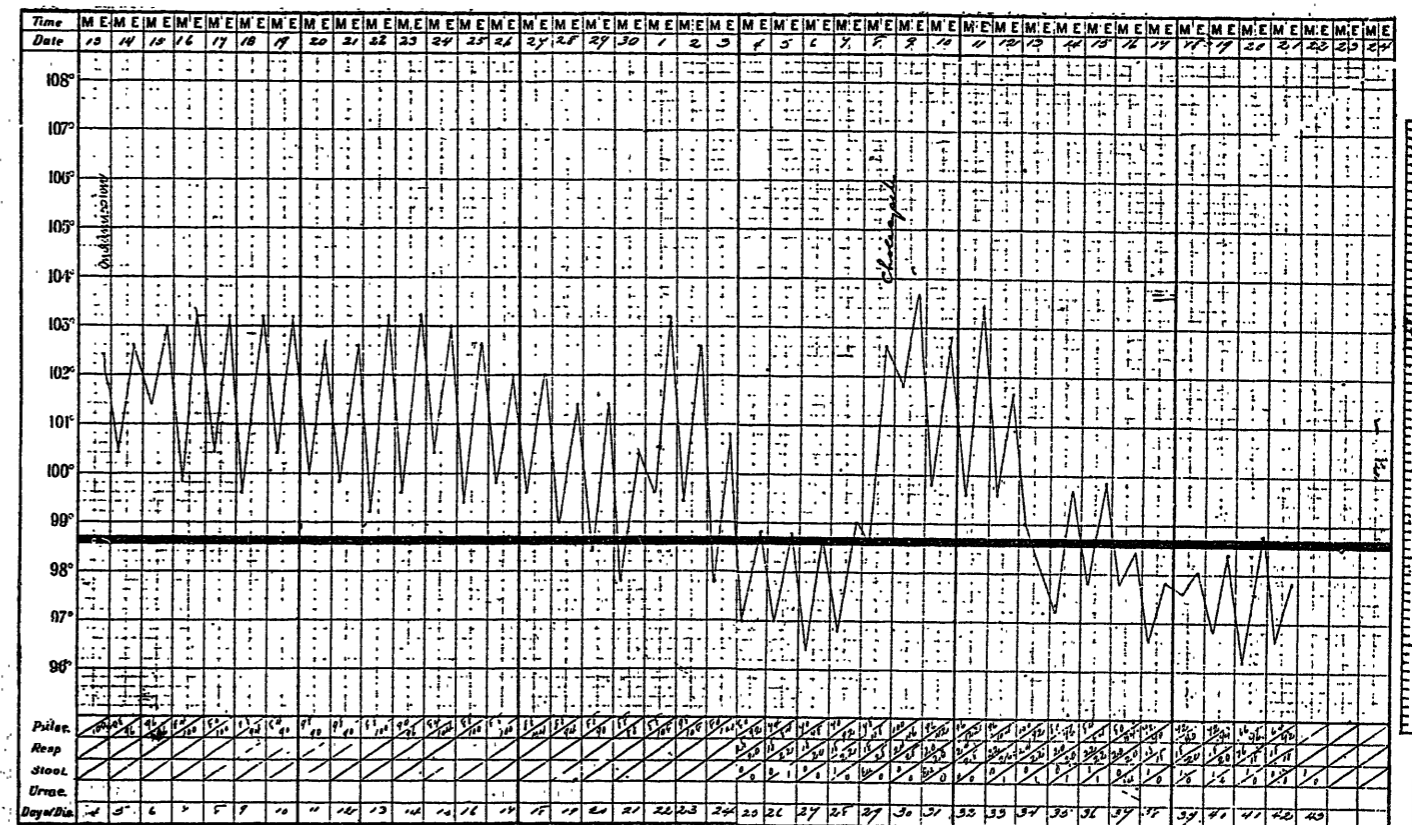
In reviewing these cases we see that a decided and sudden change in the temperature curve without much change in the pulse, more or less nausea and vomiting, fairly well localised abdominal pain and tenderness, icterus and the development of a tumour in the right hypochondrium, compose the clinical picture. When presenting such features who could fail to decide that the gall bladder or bile ducts were involved? The diagnosis is not always however so readily made and possibly as Keen points out, many biliary complications may be wholly latent.

In the cases herein narrated it must be confessed that very little

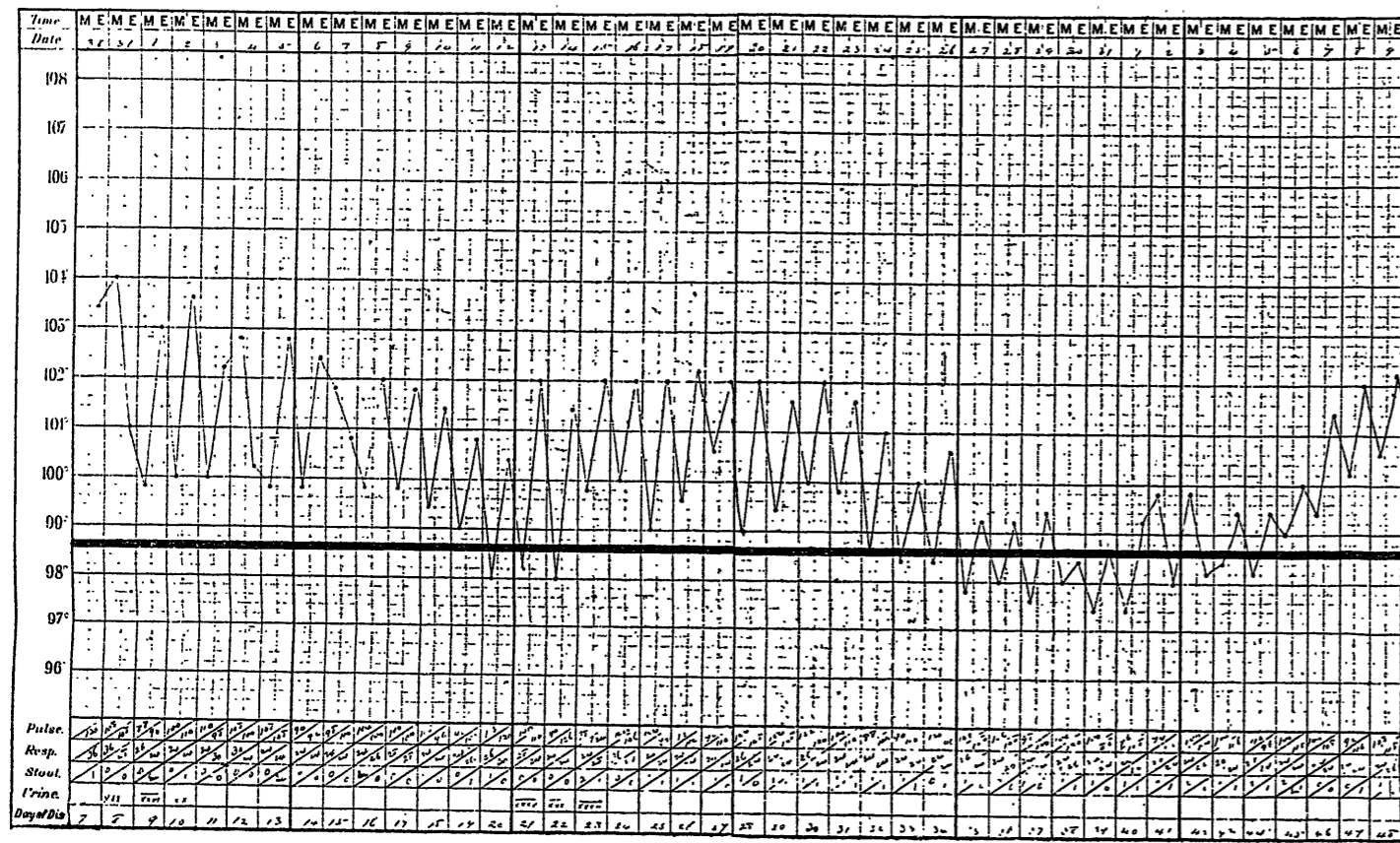
CASE I.



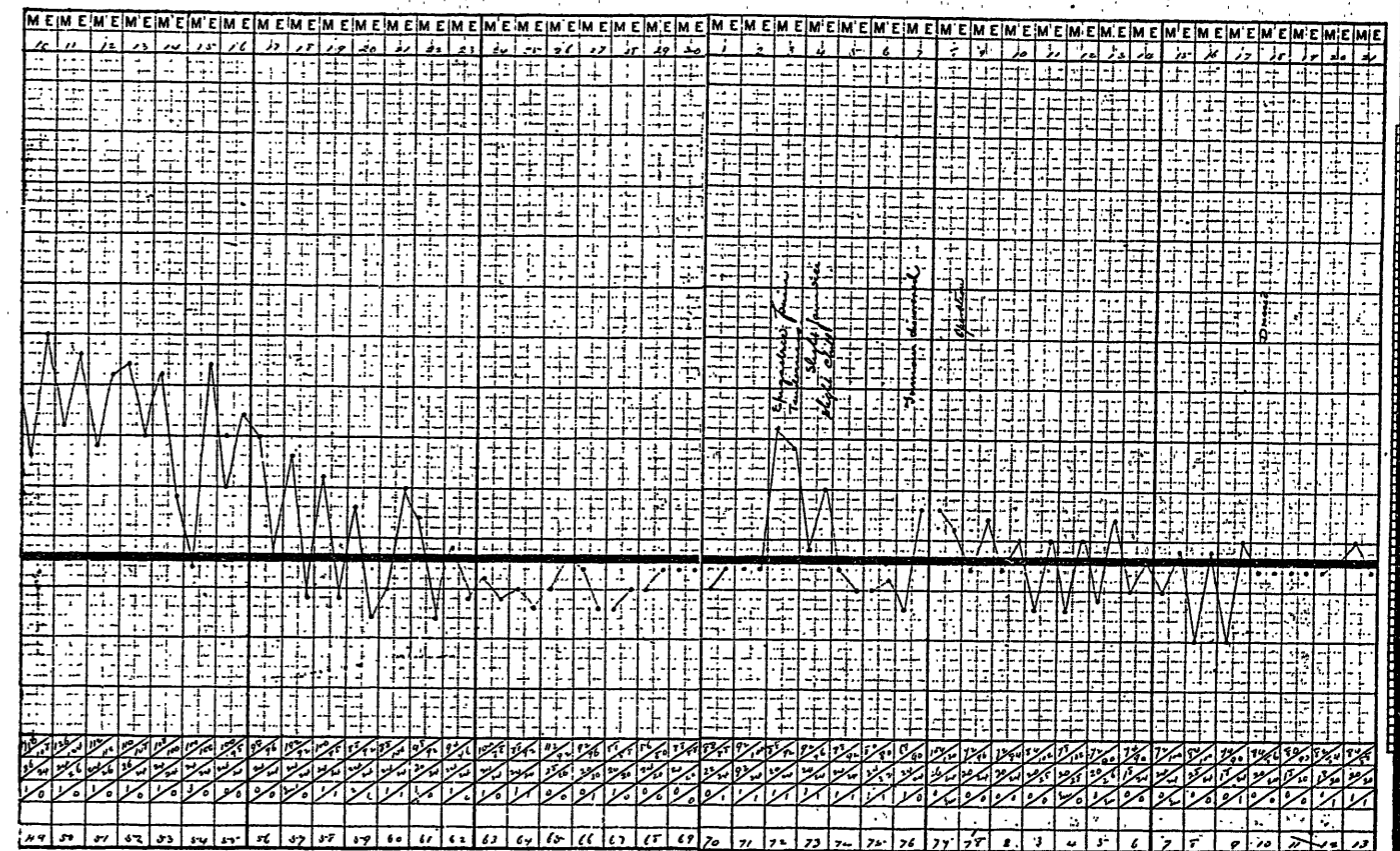
CASE IV.



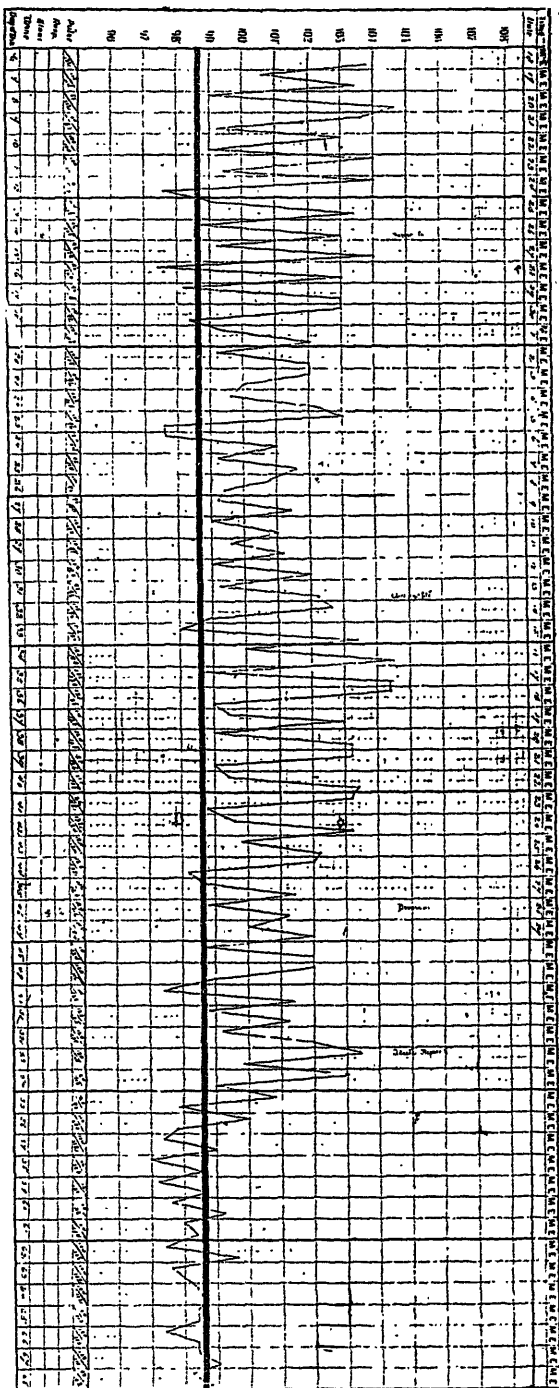
CASE II.



CASE II.



CASE III.



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difficulty arose in deciding on the presence of cholecystitis. In case i, in the third week the onset was so sudden, the pain so severe, and prostration with sweating so marked, that at first intestinal perforation was suspected. In a few hours, however, this view was dismissed for that which at first was also discussed, viz., that of cholecystitis. If one finds in the past history of a patient in whom such a complication has arisen, evidence of gall stone colic, the case is rendered clear. This history, however, was absent in all our cases. The diagnosis of the presence of stone can scarcely be made, yet we more reasonably suspect stone in those cases of recurrence of the attack of pains, and where the other symptoms and signs persist. Operation was deemed necessary in two of our cases where the signs were recurrent and persistent. These proved to be cases of cholelithiasis; the other cases subsided without operation. Where stone is present in a gall bladder one would recognize a most favourable condition for a greater infection and expect, too, the persistence of symptoms.

This complication should always be regarded as a grave one. Mason in his list of collected cases shows a mortality of 25 per cent. Doubtless this figure is rather high for we are not in a position to judge, the number of cases dealt with being as yet too small.

[The discussion on this paper is reported at page 952.]

SOME CASES OF STOMACH SURGERY—GASTROTOMIES,
TWO CASES; GASTRO-ENTEROSTOMIES, THREE
CASES ; PYLORECTOMY.*

BY

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Believing it would interest the members of this association, I have ventured to report very briefly the result of operative treatment in some cases of gastric and cesophageal disease coming under my notice during the present year ; the more so, as some of them had been under medical treatment for years without benefit, in fact, were gradually becoming worse.

While it is true that a cure was not effected in the malignant cases, nevertheless life has certainly been prolonged and distressing symptoms relieved which medicines failed to alleviate. In the non-malignant cases, where obstruction existed, though this was not in every case removed, still the symptoms complained of were promptly relieved by providing a new route for the pent up and fermenting food, and this I may say, as the result of operation with judicious dieting but no medication.

To overcome cesophageal constriction, in both cases, malignant, *Gastrotomy* was performed by the Kader-Senn method. A vertical incision $1\frac{1}{2}$ inches long to the outer side of the left rectus and a finger's breadth from the costal margin was employed. A cone of the anterior stomach wall was stitched at its base to the peritoneum and transversalis fascia. The apex was punctured, a No. 9 (E) catheter was inserted and held in position by a purse-string suture. The cone was now inverted and secured about the catheter by two other purse-string sutures. The rest of the abdominal wall was closed and the patient fed before leaving the table with sterilized peptonized milk. The catheter was left in position for a week, then removed, and was only inserted when the patient was fed.

In both cases a perfect valve was obtained, and to facilitate feeding I had a short silver tube provided with a flange fixed at the proper point to enable the patient to be fed with ease at home.

Case I.—Mrs. A. H., 50 years old, complained of inability to swallow solid or semi-solid food and liquids only with difficulty. In addition

* Read before the Canadian Medical Association, Ottawa, September, 1900.

she suffered from frequent vomiting of mucus, a persistent hacking cough, and severe pain to the right of the mediastinum made worse on swallowing but lately more or less continuous, thirst, weakness and marked loss of weight, amounting to 30 pounds.

No bougie nor stomach tube could be passed beyond 13½ inches from the incisor teeth, and when withdrawn, though no violence had been employed, the tips were stained with blood.

Difficulty in swallowing began about the middle of January. On March 23, gastrotomy was performed and the patient was discharged on April 21, able to feed herself. The vomiting, pain, and cough were promptly and permanently relieved. The patient is still living and able to be out but, in spite of taking abundance of nourishment, is losing flesh and strength. Her chief complaint is thirst.

Case II.—F. S., aged 75 years, complained of cancer of the tongue which began in June, 1899. In July he refused operative treatment, but in the autumn had had paste applied. On examination, the back of the tongue and the right pillar of the fauces show extensive disease. He cannot open the mouth nor protrude the tongue; the pharynx cannot be seen. Marked difficulty in swallowing began about a month ago. He has been unable to swallow liquids for the past twenty-four hours.

Gastrotomy was performed on April 24th, and he was discharged on May 7th, having had two sharp attacks of hæmorrhage from the ulcerated tongue, with which exception convalescence was uneventful.

The patient rapidly improved in appearance and in strength and was able to go out, and occasionally took liquid and semi-solid food. The swelling of the tongue and fauces subsided somewhat owing to the rest given to the parts, but on July 5th he was seized with a severe diarrhoea of the choleraic type and died on the following day.

Gastro-enterostomy was performed on three cases:—In one for cicatricial obstruction with marked secondary dilation of the stomach. In another, in which suture for perforating ulcer of the duodenum with marked adhesions and narrowing of the first portion of the intestine was demanded, for the purpose of giving rest to this diseased tissue, and to prevent subsequent gastrectasis which would surely follow cicatrization. In the last case it was performed as a means of controlling hæmatemesis, where the source of bleeding was believed to lie beyond the pylorus.

Posterior gastro-enterostomy as devised by Von Hacker was the method employed in all. No difficulty was experienced in opening the lesser cavity of the peritoneum in any case. The stomach was stitched to the omental rent by a few serous sutures and the anastomosis was effected between a portion of the stomach wall, as near to the greater

curvature as possible, and the jejunum about fourteen inches from its junction with the duodenum. No secondary anastomosis was employed between the proximal and distal loops of jejunum, nevertheless there was no evidence of regurgitation of bile nor of pancreatic juices into the stomach. Vomiting did not occur as a special symptom. There has been no evidence of the acid juices of the stomach producing inflammation or ulceration of the jejunum as recorded by Braun.

In each case the operation has given relief to the symptom or symptoms for which it was employed.

As to the special method of securing anastomosis. The Murphy button was used in one case, but up to the present has not been passed. Sutures were employed in the last two cases.

The patients were given sterilized water during the first twenty-four hours and sterilized peptonized milk on the third day. The following is a very brief history of the cases with the result of treatment:—

Case III.—Mrs. M., aged 29 years, complained of dyspepsia, vomiting and constipation. Her dyspeptic symptoms date back 17 years, during which she had pain with vomiting coming on shortly after meals and, in addition, epigastric distress and eructations of gas. She had a respite from these symptoms between the ages of 22 and 26, but they returned again three years ago, and in a more aggravated form one and a half years ago. Since February, 1899, she has had, in addition, marked distension of the abdomen and the sensation of something tumbling about in the belly. Vomitus is large in quantity, shows food taken a day or two before, but never contains blood. Splashing. Tongue slightly coated. Inspection reveals a hollow epigastrium with a visible tumour occupying the hypogastric and umbilical regions, over which peristaltic waves pass from left to right. An indefinite but firm mass is felt above and to the right of the umbilicus.

She was referred to the surgical side on January 12th by Dr. Martin, who had diagnosed pyloric obstruction with gastrectasis and gastroptosis.

On January 15th, abdominal section revealed a dilated and flaccid stomach having a well-marked, scar-like seam running transversely across it for three or four inches. An irregular, firm, inelastic condition of the tissues comprising the pylorus, first part of the duodenum, and the pyloric end of the stomach was discovered. The whole was evidently the result of scar tissue formation. Posterior gastro-enterostomy was performed with the Murphy button, which did not pass. Convalescence was uneventful; patient discharged February 23rd. When admitted to the surgical ward she weighed 80½ pounds, when she left, five weeks later, she weighed 100½ pounds. She was completely relieved of the dyspeptic symptoms, the vomiting, and the constipation. Peristaltic waves were elicited on stroking the abdomen.

Case IV.—J. K., aged 33, complains of vomiting, and pain in the stomach coming on about four hours after eating. Vomits sometimes shortly after eating, at other times several hours. The vomitus is slimy, occasionally bloody, and tarry blood has been passed in the stools, which are always constipated. His appetite is usually good; he has never used alcohol. The pain is located in the epigastrium, but radiates to the sides and since coming into the hospital it begins two to four hours after meals and usually lasts about half an hour. A test breakfast shows the presence of free hydrochloric acid. Total acidity equals 85 per cent.

While in the hospital, on June 9th, the patient developed severe pain in the epigastrium about noon, which continued throughout the afternoon. It was stabbing in character and accompanied by right sided abdominal rigidity and well-marked tenderness, some nausea, but no vomiting. Liver dulness was diminishing during the afternoon. The temperature was normal, pulse 104, respirations 28, pupils dilated and face pale.

Dr. Martin, who had previously diagnosed duodenal ulceration, recognized duodenal perforation and advised immediate operation.

On opening the abdomen a thin, puriform fluid with gas escaped from the incision. A perforation one inch from the pylorus surrounded by an extensive grayish necrosed-looking area, was readily seen. Numerous adhesions fixed the pylorus to the tissues behind, rendering repair of the opening difficult. An attempt was made to increase the size of the lumen of the bowel by inserting the sutures transversely. Gastro-enterostomy was performed; the abdomen opened above the pubes for drainage, and the whole cavity thoroughly washed out. The patient rallied, but unfortunately developed septic pneumonia, in spite of which, however, he gradually improved and was discharged on July 27th, forty days after operation, feeling well, relieved of his dyspeptic symptoms and able to take with relish the ordinary full diet of the hospital.

Case V.—Lillie McC., aged 26, was brought to the hospital on August 25th, suffering from hæmorrhage from the stomach. On August 4th she had fainted and shortly afterwards had vomited blood. After entering the hospital she vomited twice about 18 ounces of blood. There was a previous history, five years ago, of gastric ulcer. The total amount of blood lost cannot be estimated, but just previous to operation she presented the subjective as well as objective symptoms of severe hæmorrhage.

With Dr. Martin's consent, who saw the case in consultation, it was deemed unwise to risk the possibility of another hæmorrhage. Abdominal incision revealed a normal looking stomach, no scar nor dimple nor thickened spot could be detected; pylorus firm, and rather small. An

incision, vertical, into the stomach near the pylorus enabled us to see the interior covered with a bloody mucus, but no bleeding point could be detected. The lesser bag of the peritoneum was opened and the posterior wall and the several parts were pushed through the incision and sponged, but neither erosion nor ulcer could be detected. By reflected light the cardia and pylorus were examined but with a negative result. On attempting to pass the little finger through the pylorus it was felt to be grasped as if by an irritated sphincter, and it occurred to me that the erosion might lie beyond. Palpation of the duodenum failed to reveal any lesion and I determined to do a gastro-enterostomy, believing that the hæmorrhage had possibly come from the duodenum. While sponging the mucous membrane, a dilated vein gave way and was ligated with silk.

The patient has made uninterrupted progress towards recovery. The wound healed by first intention and the patient is now eating and enjoying food, which she says she would not have dared to have taken for many years. Blood examination shows steady increase in hæmoglobin and red cells.

Pylorectomy was performed once for pyloric obstruction with dilated stomach. After ligating the gastro-hepatic and gastro-colic omenta between double silk ligatures, and thus readily freeing the pylorus which was not adherent, elastic ligatures were applied to the part of the viscus to be resected. Two assistants secured the ends of the stomach and the duodenum respectively. Previous to operation the stomach had been thoroughly washed out with saline solution and was quite empty.

After closing the excess of the stomach wall by through and through as well as Lembert sutures, end to end anastomosis was secured by suturing, and the abdomen closed. The following is the clinical history.

Case 17.—Mrs. B., aged 27, entered hospital on February 25th, complaining of a sense of oppression in the epigastrium, pain in the same situation after meals, eructations of foul-smelling gases, and loss of weight. She had lost twenty pounds during the past four months.

Her bowels are regular and not constipated. The patient first complained of these symptoms two years ago.

Inspection shows the abdomen to be distinctly elevated about the umbilicus, and from time to time peristaltic waves pass from left to right. At the pyloric region a firm movable mass about the size of a small egg, can be felt. Test breakfast shows the presence of free hydrochloric acid. Total acidity, 30 per cent. No lactic nor butyric acid present.

Up to March 16th the patient had been treated by Dr. Martin, lavage having relieved many of the symptoms, and the patient gained two

pounds. The mass, however, had become more painful and she was transferred to the surgical department for operation, which was carried out as already described. The patient was discharged May 14th, having gained eight pounds in weight, and was able to enjoy her meals without pain or distress.

In the light of recent literature it might have been well to have established a second communication between the jejunum and the stomach. However, as up to the present I believe the patient has been enjoying good health, it is possible no contraction has taken place at the site of anastomosis. The pathologist reported the tumour-like mass to be a typical example of hypertrophic stenosis of the pylorus. As already said, the cases are reported solely to demonstrate the satisfactory result of operative treatment in selected gastric conditions not benefited by medical treatment.

A CASE OF CARCINOMA OF THE PHARYNX WITH MARKED INVOLVEMENT OF THE CERVICAL GLANDS IN A BOY FOURTEEN YEARS OF AGE.*

BY

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Carcinoma of the pharynx is, so far as surgical literature shows, a rare disease; and the age of this patient makes this case even more remarkable, so that for these reasons it has been deemed worth putting on record.

The patient came to my ward in the Montreal General Hospital on September 13, 1900, for operation on enlarged glands in the neck, supposed to be tuberculous in origin. For the following history I am indebted to Dr. J. J. Ross (Montreal), who referred the case to me, and also to my house-surgeon, Dr. Murray.

E. M. McL., aged 14, came to hospital complaining of swelling on the right side of the neck causing the head to be held to the opposite side. The trouble began as a "stiff neck" about a year ago and shortly afterwards a lump appeared on the right side of the neck, near the angle of the jaw, which has gradually increased until at the time of admission it was as large as a hen's egg.

The patient had suffered previously from inflamed tonsils and had some nasal catarrh and difficulty in nasal breathing. He now breathes almost entirely through the mouth and when asleep snores very loudly. He has had scarlet fever, mumps, measles, and tonsillitis; but none of these, so far as known, left any permanent glandular enlargement.

The boy is thin, poorly nourished, and is rapidly losing flesh. There is a marked enlargement of the lymphatic glands around the right sterno-mastoid muscle and also enlargement, not so marked, of the corresponding glands on the left side of the neck. These enlarged glands are very hard and nodular; they are firmly fixed to adjacent tissues and show no tendency to break down; they are not painful. There are no other enlarged glands. The boy's speech is distinctly nasal, suggesting some obstruction of the posterior nares, as does also the snoring breathing. There is no elevation of temperature. The urine shows albumin and casts.

Family History.—The father is still living but not strong, being sub-

* Read before the Montreal Medico-Chirurgical Society, October 19, 1900.

ject to bronchitis. The mother died eight years ago of cancer of the liver and stomach. Patient is an only child.

I asked the Laryngologist of the hospital, Dr. H. D. Hamilton, to examine the nasopharynx in order, if possible, to determine the condition there present, and he reported that there was some postnasal growth with relaxation of the palate, but, owing to the fixation of the jaw by the enlarged cervical glands, a satisfactory examination could not be made.

I feared malignancy and thought there must be some primary focus about the nasopharynx to account for this marked enlargement of the cervical lymphatic glands. I could not think that the disease, if malignant, was primary in the glands themselves, especially when both sides were involved. To further the diagnosis and also to facilitate examination of the pharynx, on September 22nd, I anaesthetised the patient and excised the large mass of indurated gland tissue on the right side of the neck. It was very hard, but shelled out readily, and it was then seen that the condition was undoubtedly malignant, as all the structures were involved and infiltrated by the neoplasm, which cut like cartilage. There were a few small cysts in the mass but no hæmorrhagic spots. The linear skin incision was closed and healed rapidly.

The pathological examination of the excised glands, which was carefully made by Dr. D. P. Anderson, Assistant Pathologist to the hospital, showed that the neoplasm was "carcinoma of the scirrhous type." Now, carcinoma generally, if not always, begins in epithelial tissue, and one must needs, therefore, find the origin of this. As the infected glands receive the lymphatics from the nasopharynx, I naturally suspected that region and therefore I asked Dr. Hamilton again to examine the pharynx and if possible to remove a small piece of the growth there for microscopic section. This was done and the growth was now seen to involve most of the vault of the pharynx and showed no tendency to pedunculate. It bled freely on being excised. The pathologist reported on this section from the pharynx:—"sections here show the same typical carcinomatous growth as that seen in the cervical glands." So that here in a boy of fourteen, we have a case of carcinoma of the pharynx with marked secondary involvement of the cervical glands which drain the area affected.

The prognosis is hopeless; and the lad is rapidly losing flesh and strength since leaving hospital.

As regards the etiology of the trouble, I cannot do much more than put down the questions that occurred to me in thinking about it, as the whole problem of the causation of cancer has still to be solved. How much has heredity to do with it? The mother showed symptoms of cancer when the child was four years old and died from it two years

later. How long has the cancer existed unnoticed in the pharynx? Was it the cause of, or was it possibly aggravated by, the "catarrh" noticed by his friends? And, finally, in what tissue did it begin? Cancer of the faucial tonsils is well recognised. Did this possibly begin in the pharyngeal tonsils while they were undergoing atrophic changes? One would expect to find in this region either a sarcoma (of the adenoid type probably) or an epithelioma, but carcinoma, as I say, is rare and more especially so when the age of the patient is taken into account. But given a carcinoma, it does explain the marked glandular involvement (which one would not get in sarcoma), together with the absence of an ulcerative condition in the primary focus (which one would get in a year's time in epithelioma).

[The discussion on this case is reported at page 950.]

NOTE ON A CASE OF ACCESSORY PANCREAS.

BY

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Cases of accessory pancreas as well as anomalies in the form and position of the gland are, according to the chief authorities, not very uncommon, though the literature on the subject is very meagre. The case here described is, however, the first which has come under our notice and we have thought it worthy of a few remarks, particularly as the condition has a pathological significance which has not been brought into much prominence. That cases are not often recorded is probably due to the fact that the pancreas and its vicinity are not always examined with the care that they ought to be.

This condition of accessory pancreas was found at a postmortem at the Royal Victoria Hospital, performed upon a young boy suffering from tuberculous caries of the lumbar vertebræ. The details of the case, however, have no special interest in the present connection, as the pancreatic condition was merely a side issue found unexpectedly at the autopsy.

The stomach was of fair size, containing a small amount of yellowish fluid; the pylorus admitted one finger; the mucosa was normal; there was no abnormality in shape or position.

The duodenum was of normal size and in the normal position; its mucosa was normal.

Just at the point where the duodenum pierced the peritoneal covering to form the jejunum, was a small flat nodule. This was situated on the left lateral border of the gut on the same side as the pancreas. The nodule was roughly oval in shape, measuring 1.5 c.m. long by 1 c.m. across and elevated about 5 c.m. above the general level of the serosa. Its margin gradually sloped on all sides so that the nodule was of the shape of a flattened dome. The serous covering invested it closely and it had no connection in any way with the main pancreas, which was in its normal site and of normal appearance. Section through the nodule showed that it was made up of a series of small nodules which had all the appearance of pancreatic tissue. The orifice of the excretory duct could not be found, although a subsequent examination showed that the duct must have existed.

Microscopical Examination.—A section was made directly through the middle of the nodule well into the intestinal tissue at each end. Owing to the difficulty of cutting it, it was not possible to preserve the

intestinal mucosa intact throughout its length, but a considerable portion was present at each end of the section, so that it was easy to make out the relationship of the parts.

The tumour formed was a distinct nodular excrecence in the wall of the duodenum, or rather at the very beginning of the jejunum, projecting mainly outwards, though to a lesser degree into the lumen of the bowel. The serosa was directly continuous over this.

The tumour proper was found to consist of multiple lobules of varying size provided with ducts and having the acinous structure of the pancreatic gland. On the margin of this next the lumen, the mucous membrane of the duodenum was found to be continuous over the surface, the muscularis mucosæ being also unbroken. The intestinal mucosa showed some reduplication with the normal villi. There were no signs of any inflammation or other abnormality except the slight soddenness and smeariness so often seen in the intestinal mucosa and due to post-mortem changes. The crypts were normal; Brunner's glands were not seen, unless certain atrophied, tube-like collections of cells were the remains of such. The tumour was regarded as being situated at the very commencement of the jejunum below the muscularis mucosæ and between it and the serosa.

At the one end of the nodule there was a distinct tendency for its substance to be separated into two portions, one being situated in the submucosa, and the other among the muscular bands of the intestinal wall. This tendency for separation did not, however, persist for long, and towards the centre both parts became indistinguishably fused. Just at the margin of the outermost, the muscular coat bifurcated to enclose it, the inner portion running for a little distance in a fibrous septum into the substance of the tumour mass and eventually being lost, the outer being continued as a few thin fibres outside the tumour altogether but very soon disappearing.

Continuing the survey of the outermost portion of the section, the serous coat was found to be continuous over the whole mass, being slightly thickened in places. It sent inwards rather large fibrous septa between the lobules, which in places had a distinctly atrophied appearance. The condition of fibrosis was, however, more relative than actual. In several of these septa large isolated masses of unstriped muscle could be found, presumably the relics of the original muscular coat. These were quite separate and dissociated from the normally constituted muscularis.

Coming to the tumour itself, it had the structure of a compound racemose gland which was divided into well marked lobules bounded by fibrous septa, in which ran ducts and vessels. The lobules were in turn made up of acini, composed of a basement membrane lined with some-

what pyramidal cells. The lobules nearest the lumen of the intestine were large and well developed, only showing a moderate amount of self-digestion. The lobules just beneath the serosa were, however, smaller, the fibrous septa much larger, and the acini in many cases small and reduced by fibrous bands to small collections of cells in some cases irregularly massed together and in others presenting the circular arrangement of the proper acini. In many instances the nuclei only could be made out. One of the lobules so affected was practically only a tree-like arrangement of relatively large ducts with a very few badly formed acini about it. The ducts were everywhere relatively large, lined by columnar cells, and in places varicose-looking. Most of them were free from secretion and presented a normal appearance, while in some others there were a few mononuclear cells but no evidence of catarrh or obstruction. Some of the ducts seen in cross section were surrounded by a ring-like sheath of fibrous tissue. There was no inflammation about the ducts. The interlobular septa were composed in the main of well formed fibrous tissue. With the high power, could be seen a few oat-shaped and bluntly spindle mononucleated cells, presumably young connective tissue cells, together with a few round, deeply-staining mononuclear cells resembling lymphoid tissue. A striking feature was, however, the presence of rather large masses of unstripped muscle, well-defined and apparently isolated. Sometimes these occupied the largest portion of a septum. Even in the deeper portions of a gland, numerous fibres of unstripped muscle were to be readily made out, showing especially well by the Van-Gieson method of staining. These formed small wavy bands following the general course of the septa. None of the cell masses of Langerhans were noted, perhaps on account of the direction in which the sections were cut.

From a study of the sections just described, the nodule present was clearly composed of pancreatic tissue and for the most part in a functioning condition. The presence of well-formed ducts and acini without any evidence of catarrh or surrounding inflammation or signs of obstruction, indicates that the gland was secreting and possessed a fairly free discharge. Examination of the intestine, however, had failed to reveal the main duct opening, probably on account of its minuteness.

The fibrous bands observed in the outermost portion of the pancreatic nodule might possibly indicate a fibrous hyperplasia with consecutive atrophy of the secreting structure, but considering that the structure was really a development from a misplaced embryonic 'rest,' it is more natural to think that the deficiency in the parenchyma was due to a developmental hypoplasia. The pancreatic growth seems to have started in the submucosa of the jejunum, that portion being the most advanced in structure; but there were no doubt developmental centres in the mus-

ularis, for the muscularis is not merely displaced and atrophied from pressure, but muscle cells are found all through the central and outermost portion of the pancreatic nodule, indicating a growth which had in-inuated itself or infiltrated between the various muscle bands.

When we consider the embryological development of the alimentary tract and its accessories, the explanation of the anomaly is not far to seek. At one period in the history of the human embryo the tract has the form of a simple straight tube, recalling the condition present in certain adult fishes and amphibians. As development goes on, the body cavity increases in size much faster than the intestinal canal, so that the connective tissue uniting the dorsal and ventral aspects of the gut to the body wall becomes elongated, to form ultimately two ligaments, each composed of two serous layers united by connective tissue. These are the dorsal and ventral mesenteries.

During the fourth week of foetal life the various parts of the alimentary tract begin to be differentiated. The dorsal aspect of the tube towards the head begins to bulge backwards; this is the primitive stomach. The liver begins to develop in the form of a small diverticulum, which is produced on the ventral wall of the primitive tube just below a point corresponding to the future duodenum. Some time after, a similar pouch on the dorsal wall of the same portion indicates the future pancreas. The relative position of things is well shown in the accompanying figure taken from His.

The primitive pancreas grows into the dorsal mesentery just referred to, where it takes up the various connective tissue, vascular mechanism, and all other elements which go to form the interstitial substance. The stalk of the diverticulum becomes the eventual pancreatic duct. Although at first the duct enters the duodenum at the opposite side from the common bile duct, as development goes on the openings gradually approximate, until finally, in the normal adult, the two ducts discharge by a common opening.

A number of curious aberrations from the normal have been described. One of these is the formation of a *pancreas minus*, which is situated on the anterior wall of the duodenum. The duct may discharge in common with the duct of Wirsung or by a separate opening. Some pancreatic lobules can also be situated behind the superior mesenteric vessels. Somewhat more frequent is the occurrence of an accessory pancreas. This is situated in the upper intestinal tract and very rarely, as Nauwerck has pointed out (*Nebenpancreas, Beitr. v. Ziegler, XII, 1893*), in the lower bowel or the wall of the stomach. They vary in size from a lentil to a Windsor bean, and usually lie concealed in the wall of the bowel, but sometimes, as in the case recorded, project above the general surface of the serosa. They communicate with the cavity of the bowel

by a duct. When in the jejunum they have been found in the apex of a diverticulum.

The explanation of the case here recorded is simple enough. In the process of the growth of the primary pancreatic diverticulum, some of the primitive germ cells have been separated from the others and have undergone a certain amount of development. As the intestine becomes larger and longer in the course of the embryo's growth, these aberrant cells became further separated from the main mass. As it was provided with a separate duct, the accessory may, and probably did, originate in a sort of side diverticulum from the main one. When the primitive diverticulum originated higher up in the digestive tract, we get the accessory pancreatic nodule in the wall of the stomach or else we get a well formed pancreas, its only abnormality being that its duct instead of opening into the duodenum discharges into the stomach. Such cases have been recorded.

The practical importance, from a pathological point of view, is that these misplaced pancreatic "rests," like other embryonic inclusions, are capable of independent growth, and thus may subsequently develop into tumours, either adenomata or carcinomata. Certain cancers of the stomach are thus not improbably due to these foetal implantations. The analogy is close with the suprarenal "rests" found in the kidney.

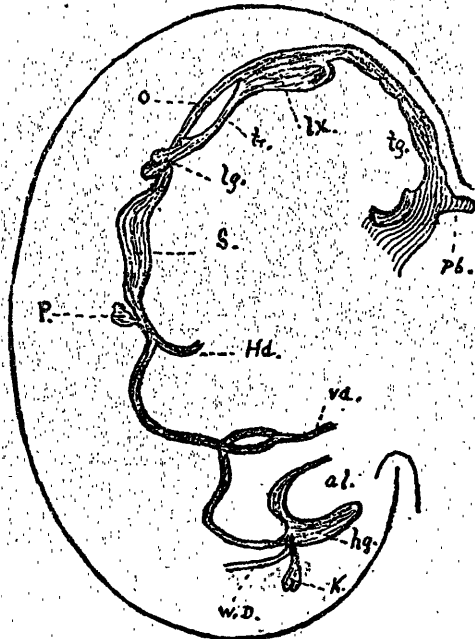


Fig. (After His.) Alimentary Canal of human embryo of twenty-eight days; Pb, pituitary fossa; tg, tongue; lx, primitive larynx; o, cesophagus; tr, trachea; lg, lung; S, stomach; P, pancreas; hd, hepatic duct; vd, vitelline duct; al, allantois; hg, hind-gut; Wd, Wolffian duct; k, kidney.

UNUSUAL CASES OF HERNIA.*

BY

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The following cases from their comparative rarity are, I think, worthy of record:

Case I.—Mrs. T., aged 38, was referred to the Surgical Department of the Royal Victoria Hospital on August 2, 1900, complaining of a small swelling in the left groin about the size of a hazel nut.

This had existed for ten years and increased in size on unusual exertion or on straining. It was not apparent to sight, but palpation showed it to be somewhat doughy, nodular, and deep seated, and it gave an impulse on coughing. It lay below Poupart's ligament and external to the pubic spine. The woman had never worn a truss nor had she ever complained of any urinary symptoms.

On August 3rd, the swelling was exposed by the ordinary incision, and the omentum found to be very intimately adherent to the sac, so much so, that great difficulty was experienced in separating it. Finally in disentangling the omentum and stripping back the sac it was discovered that we had opened two distinct cavities, one presenting the ordinary peritoneal sheen, the other lying behind this sac presented a pale, pink, smooth surface, which was readily demonstrated to be a diverticulum of the bladder by passing a catheter *per urethram*. This diverticulum at first seemed to consist only of mucous and submucous tissue, but, on continuing blunt dissection, muscular tissue was encountered. The rent was closed by three tiers of sutures, the first of fine catgut penetrated the submucous tissue only, the others of fine silk rolled in the muscular coats.

No peritoneum could be seen covering the bladder. The bladder was reduced, the omentum excised, the redundant sac ligated and excised, and the femoral ring ligated by a purse-string suture. A soft rubber catheter was worn continuously for a few days and then discarded, the patient urinating about every four or six hours.

On August 8th, the patient complained of frequent urination, vesical tenesmus, and passed some blood, which was not followed by relief. These symptoms continued more or less distressing until September 8th, when she passed a piece of sloughy tissue containing several sutures encrusted with phosphates.

* Read before the Montreal Medico-Chirurgical Society, Nov. 2, 1900.

From this time on the bladder symptoms gradually subsided, and the patient was discharged, on October 2nd, free from urinary symptoms.

Case II.—Mrs. S., aged 33, entered the Royal Victoria Hospital on October 6, 1900, complaining of a painful swelling in the right groin which made its appearance about one year and a half after an Alexander's operation, which had been performed about three years ago. In May, 1900, operation had been performed for its relief, elsewhere, and the patient given an abdominal belt to wear. The pain and swelling, however, persisted and gave her much distress.

On examination in the recumbent position, a semifluctuating swelling about the size of a small pigeon's egg is found in the right inguinal canal, which gives an impulse on coughing and which cannot be reduced, which evidently cannot be a hydrocele of the round ligament, nor a congenital sac. On standing, the swelling increases in size, becomes tympanitic, protrudes beyond the external ring, gives a distinct impulse on coughing, and is reduced with a gurgle.

On October 9th, the sac of the hernia was exposed through the previous scar, opened and the doubled up Fallopian tube, part of the round ligament, and what was evidently the hydatid of Morgagni were found anchored in the inguinal canal, and were readily exposed on splitting the external oblique tendon, nor could these structures be reduced until the round ligament was freed, its extremity ligatured, and allowed to fall in with the aforementioned structures. On ligaturing and excising the redundant sac the canal was closed by Bassini's method.

Case III.—J. W., female, aged 3, was admitted on October 29, 1900, to the Royal Victoria Hospital complaining of rupture, the mother giving the following notes:—

A year ago the child fell down stairs and complained of severe pain in the right side. On examining the seat of pain, the mother noticed a rupture which she reduced with some difficulty. It remained so and gave rise to no further symptoms until six weeks ago, when the child fell from a verandah and complained afterwards of pain in the same situation, the lump being again present, but giving more trouble in reducing it.

On examination nothing was noticed except an abnormally large right external inguinal ring. It was impossible to detect any impulse on crying owing to the child's restlessness.

On October 30th, operation was performed as follows:—The external opening was exposed by the usual incision, and the external oblique slit up as far as the internal ring, revealing a relaxed sac which did not extend beyond the external ring and which contained neither fluid nor bowel. On slitting this up, it proved to be a patent canal of Nuck on

the posterior wall of which lay an abnormally well developed round ligament which could not with the greatest care be separated from the sac so as to leave the latter intact. The ligament was sewed as far as the internal ring, thus slitting up the sac to that point, the excess of the sac after ligation being removed and the round ligament being sutured by two fine chromicised catgut sutures to the ligated stump of the sac. The ends of the catgut ligature ligating the sac were then carried by a needle through the transversalis fascia and transversalis and internal oblique muscles at a point about an inch external to the internal ring. The ends of the sutures fixing the round ligament to the neck of the sac were carried through the same structures about one-half inch higher up. The double ligatures were now tied together and lay beneath the external oblique tendon.

It was important to note in this case that when the round ligament was freed that the slightest traction brought the doubled up Fallopian tube into the inguinal canal, and on continuing traction, the ovary and fimbriated extremity also.

The inguinal canal was closed by the Bassini method.

From these two cases it would seem that in performing an Alexander's operation there is a possibility of developing an "operative hernia," not due to the giving way of scar tissue, but to the dragging in of the uterine adnexa into a rapidly acquired sac and which, if other conditions are favorable, will surely be followed by the descent of omentum and intestine. In the writer's opinion, this accident can only be avoided by taking measures to close the canal by one or other of the various methods (preferably Bassini's), employed for the radical cure of inguinal hernia, when performing Alexander's operation for shortening the round ligament.

[The discussion on these cases is reported at page 952.]

A CASE OF ICHTHYOSIS HYSTRIX.*

BY

JOHN A. HUTCHINSON, M.D.

The following case is of interest not merely from the rarity of these cases, but also from the well marked appearance of the ichthyosis. In the accompanying photograph the unusual darkness of the scales is partly due to the presence of dirt, as at the time the photograph was taken no treatment had been attempted and the child had been neglected in the matter of cleanliness. However, after thorough washing a very dark shade remains.

Family History.—The father died a month ago of phthisis aged about 30 years. He was a French-Canadian. The mother, who is about the same age, is of Scotch descent, strong and robust. There are two younger brothers, aged 4 and 2 years, both strong and healthy, but the younger of the two shows evidence of the same disease on the body and arms. The parents state that when they first noticed the condition the appearance of the scales on the older child was very similar to what it now is on the baby. No other cases are known to have existed in either the father's or mother's family.

Personal History.—E. F., aged 6 years, has always had good health, is well nourished and has suffered no inconvenience from the condition of the skin. The scaly condition of the skin was first noticed when he was about 20 months old, on the sides of the abdomen. The scales seemed to spread upwards and sideways over the trunk reaching the back at the age of 2½ years. When 3 years old the lesion was noticed on the arms and at 3½ on the legs also.

The child had whooping cough at 6 months, chicken pox at 4 years, and measles at 5 years.

Examination.—The line of demarcation between the lesion and the healthy skin is not a sharp one. The scales consist evidently of dried up masses of the horny epithelium of greater or less size. They can be scraped or rubbed off with the finger in small plaques, which break up very easily into a number of small clumps, the largest of these being the size of a millet seed. The general appearance of the involved parts is as if a single layer of loosely packed millet seeds, cemented together, had been glued upon the skin. Towards the edges, and in occasional patches elsewhere, the clumps are less densely agglomerated and the

* Read before the Montreal Medico-Chirurgical Society, November 2, 1900.

appearance is more discrete. It is said that in some cases on pulling off the clumps of hypertrophied epidermis, sebaceous plugs can be seen clinging to their under surfaces. There is nothing of this to be seen in the present case; the skin underneath is a dirty grey and is harsh and wrinkled, the natural lines and furrows being very pronounced.

The corium is evidently little if at all affected, as the elasticity of the skin is fairly well preserved. The distribution of the lesions is symmetrical and on the limbs is mainly on the extensor surfaces. The scalp shows a light grade of seborrhoea sicca. The hair is abundant, in good condition and of a brownish colour. The mother says the affected areas do not sweat. There is never any itching. Sensation is apparently normal to touch and pain. There is no indication of the disease following certain nerve tracts, and there is no appearance of it on the head, face, neck, hands, wrists, ankles or feet. The skin is also quite free along the spine.

During the summer the skin would become clearer, though no treatment was adopted, and when the winter set in, the disorder would again increase, each year covering a larger surface than the previous one.

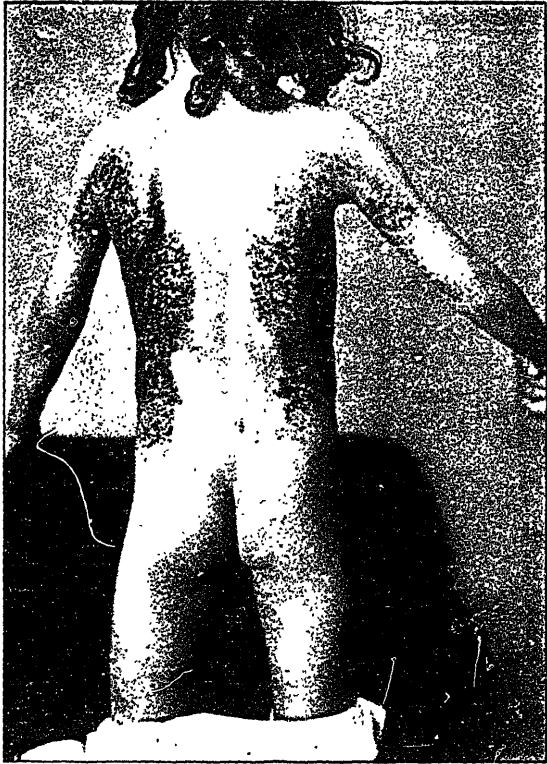
Only the scales scraped off the skin could be obtained for microscopic examination. These were submitted to Dr. Archibald for that purpose. His report is as follows:

Small clumps of the scales scraped off with the finger nail were treated with caustic potash and teased out. Others were put through alcohol and ether, examined fresh and also stained with gentian violet (5 per cent. solution in alcohol), and decolourized by the Gram-Weigert method. All these specimens showed nothing but the usual cells of the stratum corneum. In a few, nuclear remains could be made out. In none could any trace of the lower layers of the epidermis be discovered.

Treatment.—The parents could not be induced to put the child in a hospital where it could have proper systematic treatment, and as the mother would not carry on any line of treatment entailing inconvenience to the child, not much improvement was expected. The patient has been treated with thyroid extract for the last two months, and locally the skin has been softened by medicated soaps and frequent baths. This has had the effect of clearing off a good many of the scales and leaving portions of the skin comparatively free. I regard this only as a temporary benefit as the scales will likely form again when treatment has been given up and the cold weather returns.

[The discussion on this case is reported at page 951.]





REPORT OF A FATAL CASE OF HERNIA THROUGH THE FOSSA DUODENO-JEJUNALIS.*

BY

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AND

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Cases of retroperitoneal hernia are admittedly very rare. The particular variety through the fossa duodeno-jejunalis was first described by Treitz, and is sometimes known by his name. According to Treves about 70 cases are on record.

In many instances the condition has given rise to no special symptoms during life, and the condition has only been discovered accidentally at autopsy.

In a previous case shown by Dr. Wyatt Johnston before this society this form of hernia was found in a young child who had died from the results of a severe burn.

None of the symptoms are sufficiently distinctive to enable a diagnosis to be made before the abdomen is opened. Treves states that some cases suffer from dyspepsia, constipation, colic, occasional vomiting and flatulent distension. In others a cyst-like swelling, resonant or partly resonant on percussion, and lying to the left side of the umbilicus has been noted.

Obstruction, either of a chronic or acute character is seen in a small proportion of cases.

The following instance of the disease, proving rapidly fatal from obstruction, came under observation a short time ago.

In September, 1900, one of us was called to see a man *æt.* 40, at 1 a.m., suffering from severe abdominal pain.

On enquiry it was found that he had suffered from severe cramps in the abdomen on several occasions during the past few years, the last time being about two years previously, when he had a rather severe attack lasting about twelve hours. He had suffered from suppurating glands in the neck as a child and numerous scars on the neck testified to the truth of this statement.

The attack had come on about 6 p.m., an hour after eating a moderate meal. It gradually increased in severity until it became unbearable. He had taken a dose of salts and vomited three times afterwards, the vomited material being of a green color and not more than half a pint in all.

* Read before the Montreal Medico-Chirurgical Society, Oct. 19th, 1900.

The patient was a muscular and well developed man.

When seen he was sitting on the edge of the bed, leaning forward, with most intense pain in the abdomen. He was quite unable to lie down, and it was impossible to make a thorough examination. The abdomen, however, was extremely hard, rigid and board-like; it was not distended and there was only slight pain on pressure. The pain was constant with paroxysms of intense aggravation lasting two or three minutes at a time. The face was pale and covered by a profuse sweat. The temperature was 95.3-5° F, the pulse 60, regular, and although of rather smaller volume than normal, was of fair strength.

Morphine gr. $\frac{1}{4}$ was given, and in the course of the next two hours two other doses of $\frac{1}{2}$ gr. each. It was only after the third dose that he began to experience any relief, and even then the abdomen was as hard and board-like as before the injections. He dozed during the night occasionally complaining of pain, and at 9 a.m. next morning died unexpectedly and without his friends having any special warning.

Autopsy.—On opening the abdomen a tumor resembling a greatly distended bladder was seen extending from the pubic arch to within a short distance of the ensiform cartilage, occupying chiefly the right side of the abdominal cavity. On further examination the tumor was found to consist of a sac of peritoneum, and contained the greater part of the small intestine (jejunum and ileum). The mouth of the sac, which admitted three fingers, was situated about the level of the third lumbar vertebra and looked downward and to the left. The upper part of the bowel was twisted just at the opening of the sac in such a manner as to cause obstruction, and for some distance above this kink the coils of small intestine were much distended and filled with impacted contents.

The unfortunate fatal termination of the case in fifteen hours is most unusual in intestinal obstruction. The cause of death must be attributed to shock, it being too early for toxæmia to have developed. Shock is well recognized to be much more severe in obstruction of the small than of the large intestine. The absence of severe vomiting is also worth notice, especially as it tended to obscure the diagnosis. It is probably to be accounted for by the fact that the obstruction was so high up in the bowel, and a little bile was the only material above the site of obstruction which was readily regurgitated.

In the cases hitherto reported death from obstruction only occurred in from 2 to 18 days, and there seems no sufficient reason why such profound depression should have set in so early.

The anatomical conditions described above show the condition to be a complete retroperitoneal hernia of the whole of the small intestine, with the exception of the duodenum. The obstruction as is usually the case was due to twisting of the bowel at the neck of the sac.

[The discussion on this case is reported at page 952.]

NOTES FROM PRACTICE IN THE ARGENTINE REPUBLIC.

BY

F. G. CORBIN, McGill '90, Mendoza, Argentine Republic.

Supra-Pubic Lithotomy with Suture of Bladder—No Drainage.

Very little, to my knowledge at least, has been written on the above subject. I may be mistaken, but beyond a foot-note in Jacobson, I never remember seeing, much less hearing, a word about it. Let me go back and tell you why I tried it.

For the last four or five years I have been operating a good deal, and found that I could open the dura mater and sew it up without drainage; the stomach, the intestines and the gall-bladder have all been treated the same way without apparently increasing the danger. Again, on three occasions I have torn the bladder, first in a hysterectomy I did it myself; then two years ago Dr. G., who was acting as my assistant in a case of pelvic abscess, in trying to pass a pair of forceps up between the bladder and the anterior surface of the uterus in order to get vaginal instead of abdominal drainage, tore the bladder, while in a third case, a hysterectomy, the bladder was badly torn the blame resting between myself and my assistant, Dr. D. In all these cases I sutured the bladder immediately and in the two hysterectomies left no drainage, and nothing untoward happened. This last case happened a week before I by chance was doing a suprapubic lithotomy on a child of six years. Dr. D. assisted me. I proposed suturing the bladder as I had done with perfect success the week previous, and the operation was completed in this way. Since then, nine months ago, I have done the same in all cases of stone in the bladder without pyuria, I have met with. Nothing in surgery could surpass the results; in every one of my cases the return to health and happiness has been without any bother and above all without loss of time. All surgeons who have practiced suprapubic, median or lateral lithotomy know how long some of their patients take to get their fistulae healed up.

When drainage is used, be it glass, rubber, or gauze, you never by any possibility get the rapid brilliant successes to be attained by suturing the bladder; besides, I do not believe the danger to the patient is increased if done by men accustomed to abdominal work. Naturally, if before one begins, one cannot feel sure of sewing the bladder in a way to leave it watertight and without stitches on its inner surface, it is better to drain, because, although the urine in perfect health is aseptic,

on entering the bladder one cannot be sure it will be in that particular case and at that particular time, moreover, it might get septic after leaving the bladder, and would certainly in any case irritate the neighbouring tissues, should it leave its natural deposit. But, given an ordinary case of stone without pus in the urine (do not trouble about a bacteriological examination; if you cannot see the pus it is all right), and a competent surgeon, I claim that the bladder not only might be sutured but ought to be.

The patient will be up in a week and well in a fortnight. Should he then be a month, two months, or longer still, with a disgusting fistula on which to spend money in dressings and lose his time and patience, not to speak of the unpleasant odour and irritation of the skin which are accompaniments of all ordinary fistulae? By suturing the bladder on removal of the stone all this might be done away with.

My own cases are not yet sufficiently numerous to allow me to speak so confidently, but I have great faith in this operation, which I suppose is more or less new; and my results have been so perfect and pleasing that, personally, I will continue practicing it and, until I find out some ulterior drawbacks, if there are any, will continue to recommend it.

As to the technique of the operation, it is simple, in the extreme, much more so than when drainage is resorted to. We have all read about that serous membrane known as the peritoneum. Don't think of it if you are intending to suture the bladder in a suprapubic lithotomy. In my former suprapubics, and now when I wish to drain, I always take great care not to open the peritoneum. Look for it, trace it down over the front of the bladder, and incise the organ below its reflexion. Sometimes a bother, to say the least, and nearly always leaving very little room after the bladder is empty, to work with comfort. Besides, the bladder has to be well dilated and most authorities advise a rectal bag, or something of that class, to aid in getting the much dreaded peritoneum a little more out of the way.

In my last three cases I have purposely opened the bladder through the peritoneum and, for the reason about to be explained, I think it is better to do this. After suturing the bladder itself, that same peritoneum comes in very, very handy for a new line of sutures, which leaves no doubt in your mind of the perfect tightness of the bladder. I use a continuous suture of fine silk, and fasten the peritoneum to the sutured wound of the bladder. We all know how quickly the peritoneum throws out its plastic material and seals up, or over, anything to which it may be attached.

Thus, not only is it surer but it does away with rectal bags, etc., while the operation is easier on account of more room, a great point certainly.

“More room!” How often in abdominal operations I have wished for that, so much so that in operations on the kidney I have been tempted over and over again to go at it by an abdominal instead of a lumbar incision.

Another point I would like to point out. Don't make too small a cut in the bladder. Make the incision long enough to get the stone out without bruising the edges. A clean cut heals much better and is more easily sewed, while a cut two inches long heals in exactly the same time as one an inch long. Some surgeons forget this, and you see them working away through a two-inch incision with difficulty instead of working with ease, comfort and speed through a four-inch one. Besides the margins of the small wound are more apt to be bruised than those of the large one.

After the operation, I leave in a soft catheter for four days, then draw off the urine every three hours for four days more. For the cystitis, which surely exists to a more or less extent, I use twice daily a gentle wash out with four per cent. boracic acid solution in sterilized tepid water. Be careful not to overstretch the bladder wall at this time.

Do not close the abdominal wound if you are not sure of your bladder suture. A bit of gauze drain for a day or two may save you trouble later and the patient his life. I have never tested my sutures by water pressure and think it better not to do so, as the pressure can certainly do no good and might do harm. Do your suturing well and sleep without worrying. I must acknowledge I was a little dubious over my first case and got up earlier than usual to go and see him.

Those who have followed me thus far will say, perhaps, that all cases suitable for suprapubic lithotomy with suture of the bladder and no drainage, are also suitable for lithotripsy. I will not, how can I, either affirm or deny this? I have only one experience of crushing for stone in the bladder. Perhaps I did not do it well, probably I did not get all the fragments out; anyhow, the stone turned into stones, which I removed seven months later by median lithotomy. Since then, 1894, I have never even thought of my lithotrite. It may be good, it may be excellent, but I prefer the knife, without wishing to condemn a recognised surgical instrument of undoubted value in good hands.

As to the danger to the patient in one or other way of operating. To my mind the surgeon used to abdominal work will have found an ideal operation without danger whereas the surgeon accustomed to the lithotrite would make perhaps a mistake in changing. Practice makes perfect. I hope I am correct in my appreciation of the two methods. I would be very pleased to see more, or hear somebody more competent than myself, on the above subject.

"OBITER SCRIPTA." VII.

(Casual notes from the Medical Clinic, Royal Victoria Hospital.)

BY

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AND

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Notes on the Therapeutic Uses of Hot Air.

With the therapeutic nihilism which is now-a-days so common and withal so refreshing, in even great medical centres, new treatments are disregarded almost as rapidly as suggested. It may be true that the majority of new drugs are of greater benefit to the merchant than to the patient and so too of many appliances that are calculated to impose on the credulity of the physician and the experimentalist. Inquiry as to the extent to which hot air has been used, reveals the somewhat surprising fact that it too, as a method of treatment, is in danger of suffering a similar fate, not so much from its inefficiency, but largely for the reason that its results were not equal to the exaggerated expectations.

So far as we are aware, the subject has not been discussed at the Canada Medical Association, hence our desire to mention briefly some of the benefits of hot air as a therapeutic agent, while duly recognizing at the same time its limitations.

This method of treatment has been adopted now for some years, though never with such éclat as when, in 1894, there was introduced into England a new machine, by means of which air heated up to 300° or 400° F. could be directly applied to almost any part of the body with impunity.

Briefly, the apparatus consists of a copper cylinder sufficiently large to admit an extremity, the pelvis or the whole trunk. A special arrangement of valves allows for free circulation of air, while a thermometer, placed through the top, registers the temperature of the air within. The part to be treated, being well wrapped in flannel, is placed in the cylinder upon an asbestos cushion, and rubber sheeting (attached externally about the opening of the cylinder) is drawn and tied tightly about the limb.

The temperature of the bath, at first about 180° to 200° F., is gradually raised until within fifteen minutes it has reached 240° to 260° F., and then rapidly to 280° or 300° F. or more, till the termination of the individual treatment. The duration of the bath varies according to the condition of the patient and the stage in the treatment of the malady: as a rule the baths are administered on consecutive or alternate

days. During the bath the patient is encouraged to drink water freely, and at the end, wrapped up in a blanket, he is wheeled back to his bed, where he remains for two or three hours. Minor variations in the method occur in various institutions, the general principles, however, being the same.

Once introduced, the treatment was found to create temporary benefit in rendering stiffened joints of arthritis deformans more supple, and in enabling bed-ridden patients to walk more easily than they had done for months or even years. But the effect did not prove lasting, nor was the improvement progressive. Joints remained more supple up to a certain limited extent, but with the prolonged cessation of treatment, as a rule, the joints returned to their former condition. Such, at all events, was the treatment in arthritis deformans, and in many cases of aggravated chronic rheumatism, though where any pains existed or acute symptoms manifested themselves, the relief was rapid and pronounced. That, however, the method had a curative value, not even the most sanguine had reason for hoping, and it was from a false estimate of its value that the application of hot air received in many places its quietus. H. C. Wood, it is true, found many cases of arthritis deformans were rendered worse by the treatment. Yet in this and in other severe chronic affections isolated cases have been recorded where the benefit was pronounced. It is more, however, in painful effusions and in acute and subacute conditions, that the improvement is most interesting to note, being more rapid and complete than by the various other means adopted, most of which act with painful tardiness.

Recalling for example the early cases in Montreal, already reported by Dr. James Stewart, we see the effects on the course of subacute and more or less chronic cases of gonorrhoeal arthritis especially. Cases of several months duration were not only relieved from the pain incident to those inflammatory conditions, but the mobility was increased and walking (when the knee was affected) was rendered more quickly possible than by any other means we have adopted. Where much pain was present, the relief was almost immediate upon the first treatment, and pains which recurred after twenty-four hours were again quickly dispelled by the second bath, and after finally quite disappeared.

In advanced cases, of course, a remaining stiffness was bound to exist; but even where no satisfaction was obtained, there were never any evil effects observed, and the contra-indications to the treatment are apparently so few as scarcely to be taken into account. Possibly, sufficient stress had not been laid on the fact that the treatment in such cases is purely symptomatic, and any action on the specific cause of the disease is of course out of the question. Not only does hot air not affect the growth of gonococci or tubercle bacilli in joints, but its effect

on the general metabolism is extremely slight. The nitrogen elimination is not appreciably altered, at all events certainly not increased, the action of hot air being evidently a purely local one.

Nor is it only in the treatment of painful joint affections that hot air has been found eminently useful. The pain due to peripheral neuritis and local neuralgias was relieved with astonishing rapidity while the affection itself seemed to terminate on an average more speedily than by any other method we have adopted. During the past four years some 34 cases of sciatica were treated at the Royal Victoria Hospital, five of these with the ordinary methods and without hot air being applied. Of these, three were unaffected by the applications used and showed no improvement. The remaining 29 were treated by hot air and were rapidly relieved. Fourteen were completely cured, leaving the hospital well, after an average duration of three weeks, though among them were cases which had lasted months, and in one case more than a year.

The other thirteen showed marked improvement though not a complete cure. The pain was relieved on discharge, though slight tenderness to pressure remained, or in some few instances, slight lameness. Such cases, however, had been much more protracted, the average duration of these thirteen being five months. The relief by hot air was particularly striking in one instance, that of a young Frenchman who had suffered for some months and on admission was given the usual treatment by blistering and other forms of counter irritation, and the leg finally fixed in a splint. All this seemed to have no avail in relieving pain or disability, and he was placed on hot air baths. Almost immediately he was relieved of pain, and within a few days was able to leave the hospital quite well.

There would seem to be no necessary relation between a protracted case and the rapidity of the cure, inasmuch as where there was in some instances a previously long duration, the cure was rapid, more so than in many others which had lasted a shorter time. As a rule, however, the more protracted the case the greater is the number of baths required.

In the two cases of sciatica remaining in our series, absolutely no result was obtained, and they were referred to the surgeons for stretching. Such treatment likewise proved ineffectual and they left the hospital unrelieved.

What particularly directs one to the hot air treatment in sciatica is the rapid relief of pain, a relief which persists and enables the patient, while taking the necessary rest in bed, to enjoy comfort and freedom from suffering. Neither blisters, fomentations nor any other form of local application have been, in our experience, attended with like satisfactory results.

RETROSPECT OF CURRENT LITERATURE.

Medicine.

UNDER THE CHARGE OF JAMES STEWART.

The Origin of Pleuritic Infection.

JUL. A. GROBER. "Die Infektionswege der Pleurii." *Deut. Arch. Klin. Med. Ed.*, 68, 296.

Modern views on the causation of pleurisy refer the disease principally if not exclusively to a bacterial origin. In some instances bacteria are readily demonstrated by the ordinary methods of staining and cultures, the commoner forms being pneumococci, streptococci or staphylococci. In another class of cases, however, especially serous pleurisy, no bacteria can be recognized either in cultures or stained preparations. The tubercular nature of this large class of cases has been emphasized particularly by the French school, the proof being that inoculation of guinea-pigs with the serous exudate commonly induces tuberculosis. This test is often positive when there is no other evidence to indicate tuberculosis. Eichorst found that 15 out of 23 animals developed tuberculosis when inoculated with the serous exudate of cases of apparently primary pleurisy, and Aschoff found that 9 of 12 animals showed a positive reaction.

Grober discusses the origin of infection particularly in tubercular pleurisy. This membrane lying between the chest wall on the one hand and the lung on the other, might, *a priori*, be regarded as unlikely to be infected by micro-organisms. The mucous secretion of the bronchial passages is bactericidal and in many individuals they are free from germs. It would seem improbable that the pleura is infected from the blood stream, as other parts would be involved, resulting in a general miliary tuberculosis.

Turning to the lymph vessels, it seems highly probable that they form the chief channel of infection. These vessels open on the surface of the pleura by means of stomata and lead to larger vessels which ultimately open into vessels in the anterior and posterior mediastinum. For infection to take place through these vessels, say from a caseous bronchial gland, it would be necessary to assume a reversal of the lymph current.

There is some evidence to show that such a process occasionally occurs in pathological conditions. In carcinoma of the stomach, for instance, the mesenteric glands are sometimes infiltrated, and in mammary cancer the subcutaneous tissues in the neighbourhood occasionally present secondary nodules.

The writer endeavours to show that the chief source of infection is from the lung, and brings forward some experiments to show that the lymphatics from the lung lead to the surface of the pleura. When a T-tube is tied into the trachea of a rabbit and a solution of Chinese ink allowed to run slowly in, the particles are found to pass along the pulmonary lymphatics and to lodge in the pleura. This observation is of much interest in solving the question as to the origin of tubercular pleurisy. It is well recognized that small tubercular foci may exist in the lung and yet give no clinical evidence of their presence. Grober's observations on the course of certain of the pulmonary lymphatics readily explain the course of bacilli from the lung to the pleura.

This view of the origin of pleurisy is supported by some statistics of Schlenker's. In 106 autopsies of various cases there were 33 instances of pleural adhesions which could be referred to latent tubercular foci in the lungs or bronchial glands, indicating the frequency with which pleurisy depends on a latent tuberculosis. Weigert also states that in cases of tubercular pleurisy he always found tubercular foci in the lungs.

Tubercular mediastinal glands are regarded by Weigert as setting up pleurisy *per contiguitatem*, but v. Recklinghausen thinks it not improbable that there may be a reversal of the lymph current and thus bacilli may be carried from these glands to the pleura.

Another mode of origin of pleurisy is from a similar process in the peritoneal sac. There is an extremely free anastomosis between the lymphatic vessels of the two cavities, and clinically, a class of cases in which the two serous membranes are affected by tuberculosis is well recognized.

Grober discusses a mode of infection not very generally recognized, *viz.* a spread of infection downward from the pharynx or tonsils through the lymphatic glands of the neck to the connective tissue at the root of the neck and thence to the pleura. Grober has demonstrated that injections of Indian ink to the tonsils is followed by the deposit of the particles in the lymph glands of the neck and also in the upper part of the pleura. Clinically, Fraenkel has recorded two cases of mixed infection of the pharynx with diphtheria bacilli and streptococci followed by a double streptococcus pleurisy, the bacteria travelling down the neck to the mediastinum and thence to the pleura. Similar instances of pleural infection are quoted, spreading down from streptococcus infection of the tonsils.

Pleural Effusions Simulating Pneumonia.

HERMAN B. ALLYN. "On Some Cases of Pleural Exudate with Physical Signs of Pneumonia." *Philad. Med. Journ.*, Sept. 29th, 1900.

Allyn calls attention to a class of cases of pleurisy in which the physical signs simulate those of pneumonia, vocal resonance and fremitus being increased and marked bronchial breathing being present. That such cases are often extremely puzzling is undoubtedly true, but we can hardly agree with the writer that for the most part such cases are first recognized at autopsy. If the fact that blowing breathing and bronchophony may occur in pleurisy, be carefully borne in mind we believe that thorough examination and a careful consideration of all the facts of the case will usually lead to a correct diagnosis, although it may be impossible at a first examination to arrive at a definite conclusion without aspiration.

Cases are quoted from Austin Flint and Bowditch supporting the resemblance of the physical signs in consolidation and pleurisy in certain instances, and an original case is reported. A young woman, nine days previous to admission to hospital, was taken with a severe rigor and pain in the side. The left lung was flat from base to apex, anteriorly and posteriorly, the resistance was much increased and so also vocal resonance. The breathing was high pitched and tubular and there were numerous subcrepitant râles at the base behind.

The apex beat was slightly displaced to the left and herpes was present. The autopsy revealed the presence of 250 cc. of pus, a fibroid lung, bronchiectasis and old tubercular foci in both lungs.

There is no pathognomonic sign of pleural exudation. The only safe way is to examine all the signs and not to expect any one to have a too definite value. Flatness on percussion and greatly increased resistance indicate fluid rather than consolidation, and the value of these signs is greatly increased if the upper limit of dulness follows the lines of Garland and Ellis.

A change in the level of dulness with alteration of the patient's posture, Skodiac resonance anteriorly, displacement of organs and restricted or absent movements of the diaphragm on the affected side also suggest fluid.

The most important sign is puncture of the thorax, and the writer rightly emphasizes the use of a large aspirating needle, the hypodermic needle being too small to allow pus to pass.

Treatment of Membranous Colitis."

W. H. THOMPSON, M.D. "Treatment of Membranous Colitis." *Med. News*, June 2nd, 1900.

Dr. Thompson sketches briefly the symptoms of this distressing and

obstinate malady. In addition to the griping pains, the tenesmus and bearing down feeling, the constipation and passage of strings and shreds of mucus, alternating with periods of quiescence and apparent improvement, the nervous symptoms are usually pronounced. Headaches, neuralgias, pains here and there, palpitation and depression of spirits are commonly present, and are attributed to the absorption of toxic substances from the bowels.

Pathological anatomy throws but little light on the condition. The colon is dilated and thinned, with patches of veins at its lower end which are doubtless the source of the occasional hæmorrhages. Microscopical examination of the discharged membrane shows nothing but a structureless membrane; there is no fibrin or pus or other evidences of inflammation, and the cells present belong to the intestine and show only evidence of fatty degeneration.

Mechanical irritation of the rectum, such as horse-back riding or bicycling, or in women the presence of fibroids is responsible for some cases, but the commonest cause is the prolonged retention of hardened scybala. There is frequently a history of habitual constipation, hence the frequency of the disease in women.

In the treatment the colonic symptoms must be first attended to, and nothing is so efficacious as free irrigation with normal salt solution, to which five drops of oil of peppermint to the pint may be added. Three to five gallons of this solution may be used once in twelve hours, given by Kemp's rectal irrigator at a temperature of 100° F., care being taken that all the fluid is returned. Great quantities of faeces are thus dislodged and much relief is experienced. Sometimes benefit is experienced by injecting a gallon of water at the end of irrigation with 60 to 80 grs. of resorcin, and once a week a pint of hot water with 30 to 40 grs. of nitrate of silver. These irrigations are not regarded as curative as in cases of ulcerative colitis, but they are a valuable method of removing toxic products from the bowel.

Internally, castor oil is of service given in doses of $\frac{1}{2}$ to 1 drachm as an emulsion, either half an hour before or one hour after meals. This treatment should be continued for months, and only intermitted when it increases the patient's dyspeptic symptoms. Nitrate of silver in $\frac{1}{4}$ gr. doses combined with 9 grs. of turpentine resin is also of service. After six weeks, $\frac{1}{4}$ gr. of sulphate of copper may be substituted for the silver.

The dependence of the disease on chronic constipation suggests the use of purgatives, either phosphate of soda or sulphate of magnesia being recommended. Daily massage of the bowels, particularly in the region of the colon, is also to be recommended.

In the diet, beans, corn, spinach, the woody vegetables and oatmeal

should be excluded, whilst the patient is encouraged to eat meat, poultry, eggs, zoolak or kumyss, peptonised milk and most cereals.

When everything else fails, Hale White recommends the establishment of an artificial anus in the right flank so as to give the colon a prolonged rest.

H. G. Finley.

Pharmacology.

UNDER THE CHARGE OF A. D. BLACKADER.

The Causes of Habituation to the Use of Morphine.

E. FAUST. "The Causes of Habituation to the Use of Morphine."
Arch. f. exp. Path. u. Pharm., B. LXI.

Dogs readily become habituated to the use of morphine. The author, by regularly injecting increasing doses of morphine, was able to endow the dogs so treated with a very marked degree of immunity towards this drug. Regular examination of the fæces and determination of the amount of morphine excreted in them, gave the very interesting result, that, as an animal became habituated to the use of morphine, increasingly smaller portions of the injected amounts of the drug could be found in the fæces. As morphine is excreted by the mucous membrane of the intestine alone (only the merest traces being eliminated by the kidneys), the conclusion was clear that increasingly larger amounts were destroyed in the organism. While a dog not accustomed to the use of morphine excretes in the fæces from 60 to 70 per cent. of the amount injected, one habituated to the drug acquires the power of completely destroying amounts of morphine sufficient to cause the death of three or four dogs of equal size.

The following figures taken from some of the experiments illustrate strikingly the gradual development of this faculty.

A dog which has received daily injections of morphine during one week, receives after one week 0.1 grammes morph. acct., excretes 25 per cent.

Another dog, which has been receiving daily injections of increasing amounts of morphine for five weeks, excretes no morphine after administration of 0.5 grammes morph. acct.

The immunity acquired is, however, only a relative one, for it is possible to produce the death of an animal accustomed to very large doses by suddenly and largely increasing the amount administered. This result corresponds exactly to clinical experience with morphine habitués, who not infrequently die from the effects of a dose larger than their usual one, which is taken either by accident or by design.

The author concludes that the tolerance of large doses of morphine exhibited by those accustomed to its use, is due to the fact that, through

regular use of the drug, the organism acquires the faculty of destroying amounts of the poison sufficient to cause grave symptoms or death in those unaccustomed to the use of morphine, and that this tolerance is not due to a change in the nervous or other tissues producing a blunting or deadening of the powers of reaction towards the poison. Further, he concludes that this power of destroying large amounts of the poison is acquired through a development of a function, present normally to some extent, and is not to be accounted for by the development of new functions or substances not normally and physiologically existing.

The Comparative Action of Digitalis, Strophanthus, and Diuretin as Diuretics.

Under the above title J. A. MACLARAN reports in the *Medical Chronicle*, a series of investigations of the action of these drugs on the renal function.

Experimenting on himself as a normal subject, he finds that the administration of tincture of digitalis, ʒ vi in four days, was followed by an increased secretion of urine. Infusion of digitalis produced no such effect, nor did the administration of tincture of strophanthus, ℥ S5 in four days, or that of diuretin, ʒ70 grains in three days.

In studying diuresis in cases of cardiac dropsy, the author found that in 24 cases out of 40 marked diuresis set in under the influence of rest in bed and a regular diet without exhibition of any drugs.

Of 26 cases treated by administration of digitalis, 22 showed an increased activity of the renal functions, while 5 of these suffered from gastro-intestinal disturbances.

The administration of strophanthus in 13 cases was followed in 8 of them, by an increased diuresis, gastro-intestinal disturbances occurring in 10 of the 13 cases. Increased flow of urine followed the use of diuretin in 9 out of 12 cases treated with this drug, gastro-intestinal symptoms being present in one-half of the cases.

The author concludes that digitalis is the drug *par excellence* in cardiac dropsy; the diuretic effect is more constant than that of strophanthus and it is better borne than the latter drug. Strophanthus may be used as a change from digitalis. Diuretin should be used in cardiac dropsy only after digitalis or strophanthus have failed, or in combination with one of these drugs. Diuretin acts more favourably than digitalis or strophanthus in cases of Bright's disease associated with anasarca.

The author's view that uræmia is caused by the retention of urea in the blood, will hardly be accepted as in accordance with the views now held on this subject by physiologists and clinicians.

J. T. Halsey.

Pathology.

UNDER THE CHARGE OF J. GEORGE ADAMI.

The Etiology of Yellow Fever.

REED AND CARROLL. "On the Etiology of Yellow Fever." *Philadelphia Medical Journal*, Oct. 26th, 1900.

WASDIN. "On the Etiology of Yellow Fever." *Philadelphia Medical Journal*, Nov., 1900.

Interest in this question has been aroused afresh by the recent publication of the results of the work of the United States Army Surgeons, performed at Havana during the past year, which seeks to establish between yellow fever and the mosquito a relationship similar to that now recognized as existing between malarial fever and this insect. The first attempt to discover the etiological factor in the production of yellow fever, along bacteriological lines, was made by Sternberg, who isolated from yellow fever cadavers a bacillus which he suggested might be the cause of this disease. The subject then lay dormant for some years only to be revived by the discovery of the so-called "Bacillus Icteroides" by Sanarelli and his claim that it was the sole etiological factor of yellow fever.

Careful comparison between the cultures of this bacillus and the micro-organism obtained by Sternberg, showed a suggestive similarity, but no proof of their identity. Sanarelli's results were of such interest to pathologists that naturally all subsequent investigations in yellow fever took their origin from the standpoint marked out by him, and in consequence Surgeon Walter Reed and his associates in their experiments in Cuba first endeavored to isolate this bacillus from the blood of patients suffering from yellow fever during life, and from their blood and organs after death.

The results of Reed's work were published in a recent number of the *Philadelphia Medical Journal*. On 18 yellow fever patients and in 11 autopsies, Reed and Carroll failed to find the bacillus icteroides in a single instance. Dr. Finlay, of Havana, a most careful student of yellow fever, had for some years expressed his belief that the mosquito inhabiting Cuba, the *Culex fasciata*, was instrumental in the propagation of yellow fever. Following much the same plan that Ross and others followed in their work on malaria, Reed and his associates allowed mos-

quitos fed directly on yellow fever patients, to bite non-immune Americans, either dwelling in or connected with the military hospitals in Cuba.

Of the 11 patients experimented on, 9 failed to develop any symptoms whatever, two of the subjects bitten, however, developed typical cases of the disease. The movements of these two men were carefully ascertained for a considerable time before inoculation, and in one of them, Dr. Carrol, the possibility of other sources of infection cannot be ruled out, as Dr. Reed frankly states, for Dr. Carroll had visited an autopsy room where section on a yellow fever patient had been conducted the previous day, remaining there about one hour, occupied with taking cultures from the organs of a man dead of pernicious malaria.

The movements of the other man could be followed for 51 days previous to the development of an attack and at no period of this time was he within the yellow fever zone, or was he exposed in any way to infection from other yellow fever patients. This case alone is regarded by Dr. Reed as a positive case of the transmission of yellow fever from man to man by means of the mosquito.

The third case, which resulted in the death of Dr. Lazear, of Baltimore, can only be regarded as confirmatory of the other positive and probable cases. Dr. Lazear, who had been constantly visiting the yellow fever wards, taking blood specimens, handling autopsy material with impunity, and moreover having himself been bitten without result by inoculated mosquitos, while on a visit to Las Animas Hospital, allowed himself to be bitten on the hand by a mosquito which had certainly had the opportunity of biting yellow fever patients in the wards of this hospital. Within the same time after the bite of this mosquito, which serves for the incubation of yellow fever, Dr. Lazear developed a typical severe case of this disease which rapidly passed on to a fatal conclusion.

If this work of Reed, Carroll and Lazear be correct, we are forced to recognize the mosquito as the intermediate host of three diseases in man, Filariasis, Malaria and Yellow Fever, and to realize the fulfilment of that prophecy made after the work of Theobald Smith on Texas Fever, that as typhoid fever in man could be correlated with hog cholera in animals, so that type of disease corresponding to Texas Fever in animals could be found in Yellow Fever in man, for we are now able to work out a similar etiology for both the last named diseases.

Aside from the scientific interest which the results of Dr. Reed and Carroll have naturally excited, a touch of pity is aroused in all by the untimely fate of a young, well trained physician who voluntarily exposed his life to the danger of contracting a disease appalling in its mortality and which unlike malarial fever, has no known remedy to check its ravages.

Since the publication of Reed's paper the controversial spirit at present existing between the United States Army and United States Navy has culminated in a reply to Dr. Reed's remarks concerning the bacillus *icteroides* from Surgeon Wasdin, who supports the claim of Sanarelli in regard to the toxic and pathogenic powers of this bacillus.

The bacillus *icteroides* itself, cultures of which have been studied in Montreal for the past year, especially by Dr. McCrae, grows easily and rapidly in all our culture media, and the failure of Reed and Carroll to find this bacillus in 30 cases of yellow fever studied with the most thorough and painstaking methods, shows that its claim for specificity in yellow fever fails to fulfil the first one of Koch's well known postulates, unless we grant, as Wasdin claims, that arterial blood taken from the lobe of the ear, which by the way is necessarily mixed arterial and venous blood, is a better matrix from which to isolate *B. icteroides*, than venous blood taken in large quantities from the arm. Moreover bacilli differing in no respect morphologically and culturally from the bacillus *icteroides*, can be isolated from the normal intestine of man and animals, as has been done in the Molson Pathological Laboratory, and the presence of such bacilli in the circulating blood of patients suffering from a disease in which secondary infection by various bacilli is the rule and not the exception, does not necessarily point to their causal connection with the disease any more than that the presence of colon bacilli in the blood of patients in the last stages of typhoid fever, indicates that the colon bacillus is the cause of the typhoid lesions in the intestines and mesenteric glands.

Moreover even if the bacillus *icteroides* is the cause of yellow fever, the researches of Reed and Carroll are of no less value in showing the mode of infection by mosquitoes in this disease, as has recently been demonstrated in the plague for the common flea, and possibly for the fly, in the case of typhoid fever.

W. W. Ford.

Canadian Medical Literature.

UNDER THE CHARGE OF KENNETH CAMERON.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian work published in other countries) for notice in this department of the JOURNAL. Such reprints should preferably be addressed to Dr. Kenneth Cameron, 903 Dorchester street, Montreal.]

The Canadian Practitioner.

July, 1900.

1. The General Public and the Medical Profession. ADAM H. WRIGHT.
2. The Treatment of Squint (Strabismus) from the Standpoint of the Family Physician. J. T. DUNCAN.
3. Nasal and Post-Nasal Synechia. J. PRICE-BROWN.
4. Morphia in the Treatment of Puerperal Convulsions. DAVID HOIG.

August, 1900.

5. Is the Anglo-Saxon Race Degenerating? JAMES RUSSELL.
6. Excision of the Testicle, Vas Deferens, and Vesiculæ Seminales at one Sitting, for Tuberculous Disease. GEORGE A. PETERS.
7. Adenoid Vegetations. J. P. MORTON.

September, 1900.

8. On the Present Status of Therapy and Its Future. LEWELLYS F. BARKER.
9. An Unusual Case of Crossed Paralysis. D. CAMPBELL MYERS.

2. DUNCAN states that the vast majority of cases of squint in children of three years of age are due to faulty refraction, and that the child will not outgrow it. For this reason the general practitioner should advise a thorough examination of the eyes, so as to ascertain the refraction. He should advise that this be done as soon as possible, but if some weeks must elapse before it can be done, he should use atropine drops once, twice, or three times a day in both eyes, ordering that the drops be left off for at least two weeks before the child goes to be examined. If it be reported to him that the child needs to wear glasses, he should exercise his influence with the parents to see that they are worn. In case of any hesitancy on the part of the parents to attend to the matter, he should free himself from responsibility by pointing out some of the dangers of delay, as, that the child may be permanently cross-eyed, that he may be partially blind, that an operation may be needed in after years, and that the operation, although it may straighten the eye, will not cure the blindness.

3. PRICE-BROWN believes that the cause of synechia, in all cases, is either directly or indirectly traumatic. By directly traumatic he means, direct physical injury of one form or another, either by the surgeon's knife, saw, or cautery, or whatever other instrument he may use in operating upon his case, or from direct accidental injury to the parts themselves. Perhaps of surgical instruments the electro or galvanocautery is the one of all others, the use of which within the nasal passages is most likely to be followed by the development of this condition owing largely to the œdema which it produces, but when used with judicious care there is no instrument more useful in the whole armamentarium. By indirect traumatism he means simple abrasions of the surfaces from forcible blowing, when the swollen tissues are either almost or altogether in contact, or abrasion of the surfaces by continuity or contact, as in cases of chronic congestive hypertrophy of the middle and inferior turbinated bodies. In the naso-pharynx, however, he believes that the most frequent cause is indirect instead of direct traumatism, the very opposite of its occurrence within the nasal chambers. There is perhaps in this variety only a single proximate cause, and that is excessive redundancy of pharyngeal tonsillar tissue. In removing bony synechiæ he has found the saw the most useful instrument, and for fibrous synechiæ the knife, scissors, or hooked nasal knife, but very rarely using the cautery. He uses tampons of absorbent cotton soaked in one of the hydrocarbon oils, and left *in situ* for several days without being disturbed, except to keep the passages above and below cleansed and open.

4. Here while believing that in morphia we possess a valuable, perhaps the most valuable, drug for the control of puerperal convulsions, yet would not be inclined to rely on it in the worst types of the disease with complete suppression of urine and a comatose state between attacks, but would rather have recourse in such cases to every means to promote diaphoresis and the free action of the bowels. It is much less useful in non-albuminous cases than in those where albumen is present, and may even be harmful. Before delivery it is of comparatively little value, chloroform being the drug of election at that time. For morphia to be efficient it is necessary to use it in large doses, as much as half a grain being borne without any harm resulting.

6. PETERS advises that every case of advanced tuberculous disease of the testicle should be dealt with by operation, and if the disease is found to have spread up the vas to the vesiculæ seminales, the whole tract should be removed. It should be the aim of the surgeon to remove every particle of the disease as clearly as in a case of carcinoma, though failure to secure every atom of disease is much less disastrous than in

the case of carcinoma. The patient should be placed under the same hygienic conditions as are found to be favorable for recovery from tuberculosis in other parts of the body.

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The Canada Lancet.

July, 1900.

1. The General Public and the Medical Profession. ADAM H. WRIGHT.
2. Electricity and Brain Power. SIR JAMES GRANT.
3. Removal of Septal Spurs—A Note upon the Use of Carmalt Jones Spokeshave. D. J. GIBB WISHART.

August, 1900.

4. Acute Mastoid Suppuration with Presentation of Cases. PERRY G. GOLDSMITH.
5. A Case of Ankylosis Following Injury. J. T. CLARK.
6. A Case of Incarcerated Ovary. HORACE C. WINOR.

September, 1900.

7. The Prognosis of Drug Habits, with Some Reference to Treatment. STEPHEN LETT.
8. Occlusion of the Bowels Following Appendectomy: Enterectomy Eighteen Hours after Delivery. Obstruction from Tuberculous Peritonitis. ERNEST HALL.

2. SIR JAMES GRANT relates two cases, one of defective muscular power, and the other of thermo-anæsthesia, as evidence that defective mental activity unassociated with structural change may be very materially improved, by the transmission through the brain of modified electric currents by the application of a neurotone.

3. WISHART has abandoned the use of the nasal saw, and instead prefers the spokeshave in the removal of those projections springing from the nasal septum, which present the appearance of horns, such as occur usually far back in the nasal cavity, are bony in character, and impinge against a small area of the mucous covering of the inferior or middle turbinated surfaces; or the appearance of shelves, usually more anterior in situation, partly cartilaginous and partly bony in character, and in length anywhere from one-quarter to one inch, and lying parallel or almost parallel to the floor of the inferior meatus. The advantages claimed for this instrument are the absence of bleeding till the operation is accomplished, with the advantage of the non-obstruction to the vision, great saving of time in operating, the almost entire absence of pain or fear to the patient, and the satisfactory course pursued in healing.

7. LETT says that an examination of medical literature, shows a more

hopeful feeling with reference to the prognosis of all drug addictions. He emphasizes the facts that the therapeutics of the treatment of morphinism, alcoholism, cocainism, etc., is not obscure, secret or necessarily difficult, but on the contrary, simplicity itself. The very large proportion of medical men, litterateurs, ministers and nurses, who have become victims of this and other drug habits and whose mental attitude, depressed enough at best, and who lack all physical and moral stamina because of disease itself, are the very ones having such erroneous views held before them by their authorities. The pathogenesis of morphinism and other forms of narcomania, does not generally or necessarily include a moral depravity. It is necessary to obtain first the confidence, next the good will and last but most important of all the self-aid of the patient towards his own recovery, and by a firm positive conviction of the successful issue in the physician's bearing and statements, to bring out and hold and develop the best elements in the patient's organization, mental as well as physical. He adds that by an intelligent and gradual reduction, proper feeding and nutrition, etc., we reconstruct and rebuild tissues which constantly require less and less narcotics, and when the last dose is given we have a normal, well-balanced mind, a vigorous strong body, and a restored self-respect. The plan outlined calls for two things, the proper man and the proper place. He strongly urges that the pages of our text-books and journals bearing the shibboleth "once an opium eater always an opium eater," or any modification of its false and untrue notes be torn from them, cast out, re-written.

8. HALL relates two interesting cases of intestinal occlusion, and thinks that when constipation gradually increases in spite of careful regulation of diet and medication, in patients who have previously had inflammatory diseases within the abdomen or who have repeatedly suffered from intra-abdominal pain, an exploratory operation should not be postponed until the patient is *in extremis*.

The Canadian Journal of Medicine and Surgery.

July, 1900.

1. Surgery among the Insane: its Difficulties, its Advantages, its Results. A. T. HOBBS.
2. Pre-Columbian Leprosy. ROBERT LEHMANN-NITSCHKE.
3. Abdominal Pregnancy. Report of a Case. H. MEEK.
4. Recent Neurological Researches. E. S. STAFFORD.

August, 1900.

5. Gun-Shot Wounds of Kidney: Nephrectomy—Thyroid Tumour and Fibrous Tumour of Lower Jaw. THOMAS H. MANLEY.
2. Pre-Columbian Leprosy. ROBERT LEHMANN-NITSCHKE.

September, 1900.

6. Club-Foot in the Adult. B. E. MCKENZIE.
7. Cases of Malignant (?) Disease of Gall Bladder, Simulating Hydro-Nephrosis—Feeding through the Gall Bladder for Three Days. F. N. G. STARR.
8. The Relation of the Profession to Sanatoria for Consumptives. P. H. BRYCE.
9. Exploratory Incision in Obscure Brain Lesions—Some Points in the Treatment of Meningocele. L. W. COCKBURN.
10. Some Proofs that Small-pox is Prevented by Vaccination. W. F. ELGIN.

1. HOBBS urges gynæcological operations, when required, among the insane for the restoration of physical health, and the improvement and recovery of the mental condition.

3. MEEK reports an interesting case of tubal pregnancy complicated by a myoma in the walls of the uterus. The diagnosis had been very obscure as the tumour had very marked resemblance in nearly all of its characteristics to a kidney tumour, so much so that an exploratory incision was made in the right semilunar line of the abdomen extending from the lower margin of the ribs above downward about six inches.

6. MCKENZIE relates his experience during the last two years, with twenty-eight cases of club-foot in persons varying in age between the sixteenth and forty-third years. In none was there any operative intervention other than subcutaneous cutting, for he considers that neither operation on bone, nor the open incision is called for, except in a very small proportion of cases, in less than five per cent. The result, other things being equal, is better where there has been no cutting, other than that done subcutaneously. The time occupied in treatment is no longer than when the open incision is made. Whatever method be adopted, the deformity of the foot *per se* should be fully corrected before the relationship of the foot to the leg be interfered with. In all the cases referred to the results were most gratifying, with two exceptions.

7. STARR reports the history of a woman who was suffering from a mass about the size of a duck's egg three fingers below the costal margin. It presented several of the signs and symptoms of hydro-nephrosis, but on operation it was found to be a distended gall bladder. The walls of the gall bladder were sutured to the abdominal incision and a drainage tube inserted. As soon as the patient began to come out of the anæsthetic the vomiting recurred, and the stomach could retain nothing. Nutrient enemata were resorted to for about thirty-six hours, but at the end of that time they could not be retained. On the evening of the third day after operation the patient was sinking rapidly, stomach con-

tents were regurgitated from the mouth, she was restless, the face was drawn and pinched and the eyes sunken, the temperature was subnormal, and the pulse 140 and irregular. While discussing the advisability of giving a subcutaneous injection of normal saline solution, it occurred to the writer that through the gall bladder there was a direct opening into the duodenum and that normal saline might be introduced into the intestine in that way. - Three pints of solution were placed in the irrigator, the nozzle inserted into the drainage tube and packed around to prevent leakage, and the injection was commenced with the irrigator at an elevation of about eighteen inches and afterwards raised to about three feet. The patient must have received at least a quart of the solution. Inside half an hour the effect was marvellous, the patient became restful, the pulse full, the temperature became slightly elevated, the vomiting ceased and she had her first undisturbed sleep. These saline injections were repeated twice during the night, and the improvement continued, though at times there was nausea and some vomiting. In the morning the success of the experiment was so apparent that three ounces of peptonized milk were ordered to be injected through the drainage tube every two hours. This method of feeding was continued for three days, when, as there was no more vomiting, food was given by the mouth. The recovery was uninterrupted. The writer believes that his patient was the first to clearly demonstrate the usefulness of this novel but rational method of feeding.

9. COCKBURN reports a case of what he believed to be cerebral neurasthenia, in which marked improvement followed trephining. He thinks that in all cases of suspected tumour of the brain exploratory incision should be undertaken. A case of meningocele is also reported and the writer condemns the injection of Morton's fluid into the sac, but considers that excision is the proper treatment.

10. ELGIN contributes an interesting statistical study on the prevention of small-pox by vaccination.

Dominion Medical Monthly.

July, 1900.

1. Nasal and Post-Nasal Synchia. J. PRICE-BROWN.
2. Why Medical Men Should be a Court of Justice in Criminal Cases. J. J. CAMERON.
3. Valedictory, Read at Trinity Medical College Convocation, May 17, 1900. FRANK C. TREBILCOCK.

August, 1900.

4. Notes from Chicago Clinics. A. F. MCKENZIE.

5. The Treatment of Chronic Disease of the Kidneys. E. T. SNYDER.
6. Fractures of Base of Skull. J. G. LAMONT.

September, 1900.

7. Canadian Medical Association—President's Address. R. W. POWELL.
8. Sewage Purification by Bacteria. WILLIS CHAPMAN.

2. CAMERON brings forward evidence in support of making medical men the sole judges of criminal responsibility. He advocates a medical court for criminal cases—one composed of educated medical experts whose broad culture and special knowledge will make them the highest authority in the land on such questions as criminal responsibility; whose professional skill will enable them to adjudge and differentiate the motives, the capital, the power of resistance of the unfortunate criminal, and who will prescribe treatment or punishment according to the necessities of each case.

The Maritime Medical News.

July, 1900.

1. The Mutual Relations of the Profession and the Public. D. MACINTOSH.
2. The Necessity of Proper Sanitary Conditions in our Public School. D. N. MORRISON.
3. The Prevention of Tuberculosis. JOHN W. FLINN.

August, 1900.

4. Preventive Medicine. W. BAYARD.
5. Why Medical Men Should be a Court of Justice in Criminal Cases. J. J. CAMERON.

September, 1900.

6. Tropical Diseases. F. W. COX.
7. Arterio-Sclerosis, A Discussion. C. MURRAY, STEWART SKINNER, T. W. WALSH, and F. H. WETMORE.

Kingston Medical Quarterly.

July, 1900.

1. The Prevention of Tuberculosis. JOHN HERALD.
2. Sewage Purification by Bacteria. WILLIS CHAPMAN.
3. Hæmotherapy. J. MELVILLE.
4. Double Hare-Lip with Protrusion of the Os Incisivum—Complete Cleft Palate. W. G. ANGLIN.

5. Vitality of Typhoid, Diphtheria, and Cholera Bacteria in Milk. W. T. CONNELL.
6. Pneumonia and Empyema. JOHN HERALD.

2. CHIPMAN gives a critical review of the various methods employed in Great Britain for the disposal of sewage, and points out that the method of disposal by bacteria tanks is rapidly taking the place of the precipitation works.

4. ANGLIN reports a case of hare-lip. The patient, a young man of fifteen years of age, had a complete double hare-lip with marked flattening of the alæ nasi, a protrusion of the os incisivum with the attached central incisors, and a complete cleft of the palate extending through the uvula. The first operation consisted in removing the protruding bone and suturing the palate. A fortnight later the labial cleft was united, the lateral margins being freely separated from the bone, and freshened according to Rose's method. The result was extremely satisfactory.

Canada Medical Record.

July, 1900.

1. For "That Nose," GIFFORD FOX.

August, 1900.

2. Shall We Tell Women with Uterine Cancer the Nature of their Disease. A. LAPHORN SMITH.

L'Union Médicale du Canada.

Août 1900.

1. Volumineux Chondrôme de la Jambe chez une Malade Présentant des Angiômes Cutacées. A. MARIEN.
2. Tentative de Meurtre: Allégation de Folie Morale, Responsabilité, Observation Médico-Légal. GEO. VILLENEUVE.
3. Deux Cas de Kystes avec Torsion du Pedicule. de L. HARWOOD.
4. Analyses Chimiques des Eaux Potables au Point de Vue Hygénique. J. A. CIROPIN.

La Revue Médicale.

4 Juillet.

1. Note Sur la Gasoline en Chirurgie. M. T. BRENNAN.
2. La Cathéterisme et Le Lavage de La Vessie chez La Femme. M. T. BRENNAN.

11 Juillet.

Le Docteur Norbert Fafard.

18, 25 Juillet, 1, 8, 15 Août.

3. Du Vertige de Ménière et Son Traitement. JEHIN-PRUME.

22 Août.

4. Inversion Uterine. Nouvelle Technique Opératoire. Guérison. M.
T. BRENNAN.

29 Août, 12, 19 Septembre.

Coq-à-Pâne Médicaux.

5 Septembre.

Revue des Journaux.

1. BRENNAN, referring to the paper by Dr. Riordan on the use of Gasoline as a detergent, states that he has used it in the treatment of uterine cancer. It has no effect upon the progress of the disease nor upon the pain, but it acts as a detergent and helps to allay the odour. He has also used it in acute and chronic gonorrhœa with benefit.

2. BRENNAN, in a paper on the catheterization of women, repeats Kelly's advice that physicians and nurses should understand the absolute importance of properly performing this operation, and the grave results that may follow when it is carried out without the proper care. He concludes that the most rigid precautions must be taken during the operation, and that the physician must employ the most careful asepsis. That all diseases of the urethra and the meatus must be searched for and cured before the woman is catheterized, and that washing out the bladder should be done aseptically and without the use of a sound by utilizing gradual atmospheric pressure.

3. JEHIN-PRUME describes fully the symptoms and known pathology of Ménière's disease, and is a strong advocate for the use of quinine according to Charcot's method. The patient is kept in bed and carefully watched. Seven and a half to fifteen grains of the sulphate are administered daily, in small and frequent doses and freely diluted, so as not to irritate the gastric mucous membrane. For the first days the noises and vertigo are increased, but they gradually diminish and usually disappear after fifteen days of treatment. If, however, the patient is not better, some time is allowed to elapse, and another fifteen days of treatment is commenced. Other methods of treatment are also noticed in the paper.

4. BRENNAN describes an operation he performed for the reduction of an inverted uterus, after all other methods had failed. Through an abdominal incision the use of dilators and vagino-abdominal manipulations also failed. With strong scissors he incised the annular constriction for

a distance of from three to four centimetres, dividing the cervix and the posterior cul-de-sac of the vagina. Then, by means of forceps and the finger and thumb, he gradually step by step reduced the invaginated uterus. The operation was completed by closing the incisions, and the patient made a perfect recovery.

La Clinique.

Juillet 1900.

1. Le Prix SAMUEL D. GROSS.

Août, Septembre, 1900.

2. Résumé des Rapports Présentés au XIII Congrès International de Médecine, Paris, 2-9 Août 1900.

Le Bulletin Médicale de Quebec.

Août 1900.

1. Des Injections Intra-Trachéales dans les Affections Trachéo-Bronchiques et Pulmonaires. L. J. N. Fiset.

Septembre 1900.

2. Un Cas de Maladie de Little. J. PINAULT.

Reviews and Notices of Books.

A DICTIONARY OF MEDICINE AND THE ALLIED SCIENCES. Comprising the Pronunciation, Derivation, and full Explanation of Medical, Pharmaceutical, Dental, and Veterinary Terms, together with much Collateral Descriptive Matter, Numerous Tables, etc. By ALEXANDER DUANE, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute; Reviser of Medical Terms, for Webster's International Dictionary. Third Edition, Enlarged and Thoroughly Revised, with Eight Full Page Coloured Plates. Lea Brothers & Co., Philadelphia and New York, 1900. Price, \$3.00.

This is a very handy and useful book, being midway in size between the pocket dictionary and the larger lexicon. It contains, moreover, all words in general use at the present day, obsolete ones being omitted in order not to make the volume too cumbersome. The plan of the work is excellent. The titles are printed in black type, then follows the pronunciation in parentheses, and the Latin or Greek derivation in brackets, the Greek words being given in ordinary type with the quantities marked in order to make the work available to those unfamiliar with Greek. The sub-headings, when important, are also in black type, and the secondary divisions in Italics; thus the eye catches at a glance what is looked for. "The system of spelling adopted is intended to indicate the best usage regardless of analogy." The attempt of so many American writers to abolish the use of the diphthong is ignored, as is also the dropping of the final 'e' in such words as 'bromide.'

The plates, of which eight are introduced into this edition, are fairly good; we note, however, several inaccuracies in depicting the staining of leucocytes, and the appearance of the plasmodium malarie in fresh blood. The book is printed on good paper without the objectionable gloss which is so trying to the eyes, and contains a number of tables which add considerably to its value to the student.

We have much pleasure in recommending it to our readers.

ROUGH NOTES ON REMEDIES. By WILLIAM MURRAY, M.D., L.R.C.P., London, Newcastle-on-Tyne. Third Edition. H. K. Lewis, London, 148 Pages.

This little work has been so well received that a third edition has been found necessary to meet the continued demand. In this, there

are new chapters on "Specific Diseases," "Ptyalism in Jaundice," "Liqueur Brandy," and "Turpentine Vapour in the Treatment of Pneumonia;" and the work is about one-third larger than either of the two previous editions.

We have here a well timed counterblast to the endless multiplication of new drugs, that the pharmacutists and drug manufacturers of the present time are never weary of flinging at the medical profession. These gentry have, indeed, in recent years grown so impudent, that their drummers are a positive nuisance to every prominent member of the medical profession, and there is reason to believe that old and reliable remedies are often made to give place to nostrums of no established merit whatever, and this notwithstanding the acknowledged fact, that the most skillful and successful practitioners have always been known to restrict their pharmaceutical armamentarium to a few of the drugs in common use.

Dr. Murray's experience in the action of such standard remedies as mercury, arsenic, and belladonna, is given in a most interesting and instructive manner, and should be in the hands of every young practitioner as an incentive to the habit of making accurate observations on the action of medicines, and as a guide in the treatment of many morbid conditions, which only tend to recovery when favourably modified by the action of suitable remedies.

A careful perusal of this contribution to the science of medicine, cannot fail to impress the reader with the idea that there are drugs of great value when used intelligently, and that the most important thing to learn of any drug is *when and how* it should be employed or, in other words, the precise indications for its use.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., assisted by CHARLES ADAMS HOLDER, M.D.

This volume contains articles on the Thorax and its Viscera by Dr. Ewart, on diseases of the Skin by Dr. Stelwagon, on diseases of the Nervous System by Dr. Spiller, and on Obstetrics by Dr. Norris.

Dr. Ewart's article covers a good deal of ground, and will be found useful as a guide to recent work. We would have preferred to see some of the subjects dealt with more in detail, many of the paragraphs being so curtailed as to fail to convey a clear idea of the work referred to. A good deal of attention is given to treatment, both of the heart and lungs. In the 137 pages devoted to the thorax there will be found many hints in dealing with this large and important department of medical practice.

Diseases of the skin are treated in a clear and concise fashion by Dr. Stelwagon, full references to the literature of the subject being appended.

Dr. Spiller is to be congratulated on the exceedingly interesting section on diseases of the nervous system. His review is comprehensive and written in an attractive style. The subject is treated from a clinical standpoint, and articles devoted to anatomy and pathology are purposely omitted.

To the general practitioner the section on obstetrics will probably appeal as one of the most valuable in the book, forming, as it does, an excellent resumé of advances in this field of work.

PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M.D., F.R.C.P., Revised and Enlarged by H. Montagu Murray, M.D., F.R.C.P., 9th American, revised from the 9th English Edition by Walton Martin, Ph.B., M.D.; pp. 565, 4 colored plates and 393 illustrations. Lea Bros. & Co., Philadelphia and New York, 1900. \$3.25.

This 9th edition of Green's well known textbook of Pathology is, to all intents and purposes, a new work, much enlarged, and in every respect most praiseworthy advance upon the previous editions. Those old editions were, honestly speaking, little more than cram-books, designed to give to the student little more than the minimum of pathological knowledge necessary to ensure a pass in the ordinary medical examinations. The same cannot be said of the present work. While still not in any way pretending to be a complete textbook in pathology, it is, so far as I have been able to look into it, sound and well up to date. The illustrations are a wonderful improvement upon those in the older works, add to which it contains a most admirable chapter of some 65 pages upon the pathology of the nervous system by Dr. Mott to which the only objection to be raised is that it is out of proportion to the rest of the work. Further a chapter upon Diseases of the Blood and upon Malaria has been added by Dr. Walton Martin, the American editor. So that the book now, instead of being one against which to caution the student, is to be recommended as a preliminary textbook. Some objection may still be taken to the arrangement of the various chapters; for teaching purposes we doubt whether it is well to begin with the Arrest of Impairment and Nutrition, and upon that immediately to describe Tumours, then to take up Hypertrophy, Inflammation and Repair, Disturbances of the Circulation and Fever as successive chapters. It is difficult to see the line of progressive development of the subject which can in this manner be possibly brought about; indeed, save in the first two chapters there is a complete absence of natural arrangement of the subjects.

treated. On the other hand it is doubtful whether the progressive study of pathology is possible in 380 pages of clear readable type devoted to General Pathology, 100 of which are given to Parasites and Bacteria. But while noting this objection the editors and publishers are to be congratulated upon the marked improvement in the work.

A MANUAL OF PERSONAL HYGIENE. Edited by WALTER L. PYLE, A.M., M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia; Fellow of the American Academy of Medicine, etc., etc. Contributors:—J. W. Courtney, M.D., G. H. Fox, M.D., E. F. Ingals, M.D., W. L. Pyle, M.D., B. A. Randall, M.D., G. N. Stewart, M.D., and C. G. Stockton, M.D. Illustrated. Philadelphia, W. B. Saunders & Co., 1900. Canadian agents, J. A. Carveth & Co., Toronto. Price, \$1.50.

The object of this book as set forth in the preface is to indicate the best means of developing and maintaining physical and mental vigour. A chapter each is devoted to the Digestive Apparatus, Skin and its appendages, Vocal and Respiratory Apparatus, Ear, Eye, Brain and Nervous System, and Physical Exercises. It is not clear whether the book is intended for use by professional men or as a guide to those not possessing medical knowledge. The anatomy and physiology of the parts under consideration is discussed in an elementary way, more or less easily understood by the non-professional reader, while the matters treated in some divisions of the book cannot be intelligible to any but professional men. We cannot but think that the book would have gained by being the production of one man, the various contributors apparently having widely different ideas as to what was required of them. Still there is a great deal of valuable information contained in it for both classes of readers.

BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES. By EMILY M. STONEY, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill.; author of "Practical Points in Nursing," etc. Illustrated, W. B. Saunders & Company, 1900, Philadelphia. Canadian agents, J. A. Carveth & Co., Toronto. Price, \$1.25.

This small volume of 190 pages constitutes the notes of a series of lectures on the subjects treated, which were delivered by the author in her capacity as Superintendent of a training school. The first part of the book deals with Bacteriology and Antiseptics, the second part with Surgical Technique, Signs of Death, and Autopsies.

In the opening chapters on Bacteriology, it is intended to give just

so much as will be found of value to a nurse in enabling her to understand its relationship to disease. The subject is presented in a concise, practical way, which every nurse can readily grasp. The importance of having a thorough knowledge of the appearance, odour, and qualities of the more commonly used antiseptics, disinfectants, etc., cannot be too forcibly emphasized, and the summary given is an excellent one.

The Surgical Technique described in the second part of the book is most thorough. Several chapters are devoted to anaesthesia, the preparation of surgical dressings, the use of the thermocautery, etc., and the preparation of sutures, ligatures, sponges and other necessities. In the preparation of the surgeon and his assistants, and of the patient, stress is laid on the paramount importance of strict asepsis. A detailed account is also given of the care of the patient after operation.

One feature of the book which we note with pleasure is the introduction of a chapter dealing with operations in private practice, setting forth how the nurse can best make use of the facilities afforded by the ordinary domestic furniture and utensils when she is unable to procure the complicated apparatus found in hospital. There is also a chapter on Signs of Death and Autopsies, the latter describing the preparations to be made by the nurse for the assistance of the person performing the autopsy.

The book is a valuable one and will no doubt meet with a ready sale among the class for whom it is written.

FRACTURES. By CARL BECK, M.D., Visiting surgeon to St. Mark's Hospital and to the New York Poliklinik; formerly Professor of Surgery, New York School of Clinical Medicine, etc., etc. With an appendix on the Practical Use of the Röntgen Rays. 178 illustrations. Philadelphia, W. B. Saunders and Company, 1900. Canadian agents, J. A. Carveth & Co., Toronto. Price, \$3.50.

Dr. Beck in this book brings most lucidly before the reader the altered views of fracture and their associated conditions and complications, which have resulted from the use of the Röntgen Rays.

"During the past few years literature on the Röntgen rays has grown to large proportions; it has led to many and revolutionizing discoveries; most of these have marked a clearer understanding and consequently the better treatment of fractures." A most interesting chapter is devoted to the classification of fractures, and to the process of repair as observed in long and flat bones. This chapter is remarkably concise, and gives a review of the older teaching, as well as the modifications learned from the use of the rays in fractures and sprains, in a manner at once interesting and instructive.

The flood of light thrown on many of these troublesome injuries to the bones and joints is amazing, and Dr. Beck, by his illustrations as well as by his letter-press, has made them very clear to the reader. This is particularly the case with regard to obscure conditions, hitherto often regarded as contusions and sprains, which in many instances are shown by the Röntgen rays to have been linear fractures and fissures accompanied by little or no displacement. As an instance, may be mentioned the frequency in which the so-called Colles' fracture is complicated by intra-articular fracture of the lower fragment or fissure of the lower end of the ulna. This information is useful to the man who has not an X-ray mechanism as well as to the hospital surgeon.

The treatment of fractures is fully considered. There is included, also, a chapter on the practical use of the X-ray machine. The book is to be highly commended.

G. E. A.

THE TREATMENT OF FRACTURES. By CHARLES LOCKE SCUDDER, M.D., Surgeon to the Massachusetts General Hospital, Out-Patient Department; Assistant in Clinical and Operative Surgery in the Harvard Medical School, assisted by Frederick J. Cotton, M.D., with 585 illustrations. W. B. Saunders, Philadelphia. Canadian agents, J. A. Carveth & Co., Toronto, 1900.

The authors really consider, in addition to treatment, the anatomy and pathology of the fractures of bones, and their experience with the Röntgen rays is made good use of and fully illustrated. The indications in treatment are clearly shown and the simplest form of apparatus advised to the exclusion almost altogether of specially manufactured splints.

In speaking of fractures, the terms "closed" and "open" are used instead of "simple" and "compound." Whether the expressions "closed" and "open" express any more definite conditions than "simple" and "compound," may possibly be questioned by the reader.

In treating fractures of the olecranon and patella, the authors are wisely conservative. They emphasize the safety of the mechanical non-operative treatment aided by position, and draw attention to the generally satisfactory results thereby obtained, reserving operation for compound or "open" fractures and for "closed" fractures in which the fragments cannot be fairly well approximated.

Fractures of the lower end of the radius receive the attention to which their frequency and importance entitle them. The Röntgen rays have demonstrated the frequency with which Colles' fracture of the lower end of the radius is accompanied by fracture of the styloid process of

the ulna. The authors state that this occurs in "about fifty to sixty-five per cent. of all cases."

The chapters on fractures of the bones of the skull and vertebral column are excellent. Great importance is attached to the systematic use of massage; and the advantages from the use of general anæsthesia in obscure fractures, especially those occurring in the neighbourhood of joints, is clearly set forth.

G. E. A.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE.

By CHARLES E. DE M. SAJOUS, M.D., and One Hundred Associate Editors. Illustrated with chromolithographs, engravings and maps. Volume V. The F. A. Davis Co., Philadelphia, New York and Chicago, 1900. Pp. 662.

The fifth volume, issued under date of October, 1900, extends from "Methyl Blue" to "Rabies." Like previous volumes it contains not only a concise statement of the present knowledge concerning each subject, but also a brief review of the work done in the subjects during the years 1896-7-8. The fact that each article is signed by the author adds to its value. The present volume deals with several important specialties—otology, laryngology, neurology, ophthalmology and pediatrics. There are, in addition, valuable articles on the "Disorders of Pregnancy," by Dr. Currier of New York; "Abnormal Parturition," by Drs. Grandin and Marx of New York; and "Nursing and Infant Feeding," by Drs. Holt and Fétra, of New York. The latest views and teachings are embodied in these chapters.

There is also an interesting article on Morphinomania and its treatment. Two of our principal drugs, opium and quinine, receive merited consideration. Mention must also be made of a full and suggestive article on Pneumonia, its complications and sequelæ by Thomas G. Ashton, of New York; and one on "Pneumonokoniosis," by Sajous.

The present is quite up to the standard of previous volumes, the whole form most valuable books of reference.

G. E. A.

ATLAS AND EPIHOME OF DISEASES CAUSED BY ACCIDENT. By DR. E. GOLEBIEWSKI, of Berlin. Authorized Translation, Edited by Pierce Bailey, M.D., of New York. Philadelphia, Saunders and Co., 1900. Canadian agents, J. A. Carveth and Co., Toronto. Price, \$4.00.

This work is the first which has appeared upon the subject in the English language, and is one which covers ground upon which authoritative

information is indispensable to any one concerned with the disabling effects of accidents, especially as regards the estimation of the loss of earning power. The medical expert in civil suits, and all who have to make examinations for accident insurance companies, will find it of great assistance to them.

In spite of the difficulties inherent in the plan of the work, in which the text is mainly designed to be explanatory of the illustrations, the subject is treated in a thorough and comprehensive manner. The illustrations are very skilfully executed; but it would have been more useful and instructive, though perhaps less impressive, to have increased the number of diagrams and skiagraphs at the expense of the coloured plates.

Of the work as a whole we can only speak in the highest terms of recommendation. The arrangement of the subject matter is to a large extent original with the author, who has been well known for years as one of the leading authorities in this department of work; and the statements throughout are based on his personal observations.

W. J.

PHYSICIAN'S VISITING LIST FOR 1901.—P. Blakiston's Son & Co., Philadelphia, 1900.

How few books there are that have not outrun their usefulness in fifty years! Such is the boast of the publishers of this visiting list who take great pride in the continued success of this indispensable accompaniment of every physician and certainly their long experience has produced one of the most complete and compact visiting lists issued.

The book, besides the visiting list, contains tables of weights and measures, doses, comparison of thermometer scales, directions for resuscitation in apnoea and asphyxia, etc. There are blank pages for memoranda, addresses of patients and nurses, accounts, obstetric and vaccination engagements, records of births, deaths, etc. The book is issued in several sizes for a varying number of patients, and is bound in smooth black leather with pencil holder and pocket at the back.

THE MEDICAL NEWS LIST FOR 1901. In four styles. Lea Brothers & Co., Philadelphia and New York. Price, \$1.25.

This is a very neat and handy visiting list, containing much useful information besides the blanks for patients names, births, deaths, obstetric engagements, etc. It is issued in the form of a wallet-shaped book, bound in seal grain leather and provided with a pocket and pencil and rubber. It opens with 32 pages of printed data of the most useful sort, including an alphabetical table of diseases with approved remedies, a table of doses, sections on examination of urine, artificial respiration, in-

compatibles, poisons and antidotes, a diagnostic table of eruptive fevers, and a plate showing at a glance the incisions for the ligation of the various arteries. It is printed on fine tough paper suitable for either pen or pencil, and is well adapted for saving time and keeping a correct record of accounts, etc.

POST-MORTEM EXAMINATIONS. By JOHN CAVEN, B.A., M.D., Toronto.
J. A. Carveth & Co., 1900, 40 pp., interleaved.

The directions given for post-mortem technique are clear and free from useless verbiage and the illustrations appear well chosen. The object of interleaving the book is not at all clear. The special chapters on the technique in criminal poisoning cases and on the examination of the new-born will greatly increase its suitability to the needs of general practitioners, who are called on to make autopsies in such cases in relatively greater frequency than is the routine hospital pathologist.

W. J.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, October 19th, 1900.

J. W. STIRLING, M.B, VICE-PRESIDENT IN THE CHAIR.

Drs. W. W. Chipman, David Patrick, and W. B. Howell were elected ordinary members.

Drs. W. H. Sutherland, J. R. O'Brien, H. B. Cushing, S. H. McKee, B. D. Gillies, C. T. Ballantyne, F. T. Tooke, L. W. Martin, T. Turnbull, of the Royal Victoria Hospital, and Drs. E. R. Secord, W. Wilkins, C. P. Henry W. H. Hill, W. G. Turner, J. W. Patton, W. E. Rowley, L. M. Murray, H. R. Gray, and A. P. Hall, of the Montreal General Hospital, and Drs. A. Macdonald, and C. H. Christie, of the Western Hospital, were elected temporary members.

Retroperitoneal Hernia.

DR. F. G. FINLEY reported the clinical history of this case, and DR. D. D. MACTAGGART described the post-mortem appearances. See page 913.

DR. J. G. ADAMI recalled to the members that this was not the first case of retroperitoneal hernia to be communicated to the society. Some four years ago Dr. Wyatt Johnston had brought forward a case in which the whole of the small and, if he remembered aright, the greater part of the large intestines, were contained in a huge retroperitoneal sac.

DR. J. M. ELDER could not understand why there were not grave symptoms of obstruction present when such a large portion of the intestines had passed through the rent. One would have expected, besides the pain and shock reported by Dr. Finley, vomiting such as is usually found in cases of obstruction.

DR. FINLEY, in reply, could only say that vomiting had not been present to any extent. The man's wife had given him salts when the pain first set in and he had vomited three times after receiving the dose.

Porro-Cæsarean Section.

DR. F. A. L. LOCKHART reported this case and exhibited the uterus which he had removed. See page 883.

Conservative Cæsarean Section.

DR. D. J. EVANS gave the previous history, and DR. WILLIAM GARDNER the report of the operation. See page 879.

DR. D. J. EVANS said that it had occurred to him in thinking over

the case after the operation, that the alarming hæmorrhage which had occurred might possibly have been more easily controlled if the anæsthetic had been withdrawn and the patient allowed to come partially to, as then the uterine muscle would have had more tendency to contract.

DR. WILLIAM GARDNER had a word to say about the question of fibroids complicating pregnancy. There were cases in which it was possible to raise a fibroid out of the pelvis while the patient was in the second stage of labor. On one occasion, in consultation with Dr. MacCallum, he had raised a fibroid tumour and allowed of the birth of the child and of the placenta. Half an hour afterwards the woman had died suddenly. There had been no autopsy, but he considered it likely that the force used in pushing up the tumour out of the way had torn some adhesion or other structure in the pelvis and that death had resulted from hæmorrhage.

DR. LOCKHART thought a point might be brought up regarding the condition of the child in his own case. On delivery it was pale and did not breathe until some time had been spent by Dr. J. C. Cameron in working with it. The question was whether the anæsthetic had had anything to do with the production of this condition. He did not think it had.

DR. GARDNER further said that the question was often put as to whether it was proper so to complete the operation as to prevent further pregnancies. He thought it was utterly unjustifiable in the present state of surgery. The uterine incision very often became adherent to the abdominal wall and a future operation was simplified to the extent that the peritoneal cavity need not be opened.

Carcinoma of the Cervical Glands in a Child.

DR. J. M. ELDER exhibited a lad fourteen years of age with carcinoma of his cervical glands. See page 900.

DR. G. E. ARMSTRONG had never seen cancer in a child of that age and it was also the first case which he had seen of carcinoma starting in that space. The cases were very rare and the condition of the glands bore a very striking resemblance to that seen in sarcoma. The fact that the child's mother had died of cancer eight years before brought up the question of heredity or infection.

One factor which might help to explain its occurrence in a lad of fourteen years of age was that although it had developed in a boy of fourteen it had developed in a tissue which was undergoing retrograde degenerative changes.

DR. J. G. ADAMI looked upon the case as remarkable both on account of the early age at which the cancer had appeared and the slow growth of the disease. The general rule was that in very young persons cancer

developed rapidly and here the development appeared to be peculiarly slow. Yet, on the other hand, it had to be called to mind that cancer affecting the head was very often of slower development than in most other parts of the body. It was suggested that the history of long continued catarrhal irritation given in the notes, might play some part in explaining the etiology.

DR. J. M. ELDER, in reply, said that the cause might possibly have been the pre-existing catarrh. As to the site of the cancer, it was quite true that one would have expected it to have arisen from the vault of the pharynx on account of the presence there of cylindrical epithelium, at the same time cancer of both the faucial and lingual tonsils was on record, then why not of the pharyngeal. It might have begun in the remains of the old adenoid ring.

Stated Meeting, November 2nd, 1900.

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

Ichthyosis Hystrix.

DR. JOHN HUTCHINSON presented two children, the subjects of this disease, and exhibited photographs of one taken when the patient first came under his notice. See page 911.

DR. J. M. JACK expressed surprise that the case had been announced on the card as one of ichthyosis hystrix. The lesions in this disease were peculiarly localized, the extensors being principally involved while here the reverse was the case. The case when first seen, before treatment was instituted, might have appeared more like ichthyosis. According to Dr. Hutchinson's report, the scales when removed did not show the presence of sebaceous plugs on their under surface nor did they leave a bleeding surface, two points against its being ichthyosis. Then, again, true ichthyosis did not react so quickly to remedies.

DR. G. GORDON CAMPBELL agreed with Dr. Hutchinson and not with Dr. Jack in his opinion of the nature of the case. With regard to the situation of the lesions, he had seen half a dozen cases of ichthyosis hystrix and while in most of these the eruption was on the extensor surfaces, following longitudinal lines on the extremities and transverse ones on the trunk, at the same time no two cases were exactly alike. He did not, however, agree in calling it "hystrix" but thought it should rather be classified as ichthyosis simplex or xeroderma. With regard to the action of thyroids he had tried it in several cases in whom the skin through accumulated dirt presented much of the appearance seen in these photographs. After the administration of thyroids, combined with the external use of oils and soap, the scales had mostly peeled off

leaving the skin smooth and soft, but the result was not permanent on discontinuing the treatment. Other points against calling the disease hystrix were that the skin over the whole body was more or less rough, whereas in hystrix the skin surrounding the lesions was quite soft and healthy; and also the fact that a younger member of the same family showed evidence of xeroderma.

DR. HUTCHISON, in reply, said that he had not recognized the disease at first as he was not familiar with it, but after consultation with one or two who were, he had arrived at that diagnosis and still held to it. He thought that whether it should be called a case of hystrix or simplex was a matter of opinion as the difference between the two lesions was merely a matter of degree.

Rhinoplasty.

DR. JAMES BELL presented two individuals on whom he had performed rhinoplasty and reported the history of two other cases. A full report will be published later.

Unusual Cases of Hernia.

DR. A. E. GARROW read the report of three cases of operation for hernia in which the sac contained organs other than bowel or omentum. See page 908.

DR. F. R. ENGLAND could not understand how the Fallopian tube and broad ligament had been drawn into the sac by pulling on the round ligament. Even if the uterus were drawn up against the wall of the abdomen how was it possible to draw these parts into the ring.

DR. GARROW, in reply, said the explanation was very simple. The round ligament was covered in front by the anterior layer of the broad ligament and when the round ligament was pulled upon, and particularly that portion extending from the horn of the uterus to the internal abdominal ring, a double fold of the anterior layer of the broad ligament together with the Fallopian tube was immediately drawn into the ring and even the horn of the uterus might follow.

Cases of Cholecystitis Complicating Typhoid Fever.

DR. W. F. HAMILTON read a paper with the above title. See page 888.

DR. H. A. LALEUR had never been fortunate enough to have come across a case of cholecystitis in typhoid fever although he had been on the lookout for it. One of the most interesting points about the present cases was that the operated cases showed the presence of stone, which suggested that cholecystitis as a recognized clinical entity in typhoid fever was usually preceded by gall-stones.

DR. J. G. ADAMI thought it was of interest in this connection to know that Welch and Chiari and others had brought forward evidence to

show that the typhoid bacillus might be the cause of stone. The setting up of inflammation in the gall-bladder and the debris from the bacilli led to the formation of a stone. In Dr. Hamilton's case it seemed clear from the finding of gall-stones at the operation, that the stones had preceded the attack of typhoid. There might, however, be some cases in which the bacilli do set up a form of irritation which led to the formation of stone.

DR. W. W. FORD referred to some work of Dr. Cushing's on a number of cases of cholecystitis in typhoid fever. Dr. Cushing had isolated the typhoid bacillus in pure culture from the centre of some of the stones obtained from these cases.

DR. C. F. MARTIN thought that more than the presence of the typhoid bacilli in the gall-bladder was necessary to lead to the formation of stone. The dead tissues which result from the inflammation of the gall-bladder were sufficient to form a nucleus without looking to the bacilli. Because the bacillus was present in gall-stones it was not necessarily the cause of the disease.

OTTAWA MEDICAL SOCIETY.

A regular meeting of the society was held in St. Luke's Hospital, Ottawa, on November 9, 1900. DR. J. L. CHABOT, President, in the chair.

Pathological Specimens.

DR. PREVOST showed a uterus the size of a foetal head with interstitial fibroid tumours which he had successfully removed from a case sent to him under the impression that it was a tumour of the lower bowel. The symptoms had been those of pressure and obstruction of the bowels and bladder. The tumour completely blocked the pelvis, and extended up to the umbilicus. Per vaginam, the finger came at once on the mass pressing down the posterior vaginal wall. No cervix was palpable. On operating it was found that just enough cervix was left for a supra-vaginal amputation of the tumour in which the normal outlines of the uterus were entirely lost. The tubes and ovaries were normal. There had been no disturbance of menstruation. The patient was doing well.

Anæsthesia in St. Luke's Hospital.

DR. PREVOST urged the benefit of having an anæsthetist who had devoted careful study to the subject and had had a large experience. The best anæsthetic was the one which was proved to be the safest, quickest, and had the fewest after effects. In his work in St. Luke's ether and latterly nitrous oxide and ether had been used so far without an accident. Of 527 cases in which a record had been kept as many as 30 per cent.

had albuminuria after the operation, passing off in a day or two at most. With ether it required from five to twenty minutes to secure full anæsthesia. In 159 cases of nitrous oxide and ether anæsthesia, albuminuria occurred in seven only, or $4\frac{1}{2}$ per cent., and only a trace in each case. The time required to produce complete anæsthesia was 1 minute in 10 cases; $1\frac{1}{4}$ minutes in 5 cases; $1\frac{1}{2}$ minutes in 39 cases; 2 minutes in 62 cases. The longest time needed was five minutes, and the shortest was forty-five seconds in one case. The maximum amount of ether used was seven ounces; the minimum was less than an ounce; the average was two to five ounces. Neither the amount of ether used nor the duration of the anæsthesia seemed to have any influence in the production of albuminuria, it having appeared in a case where only two ounces were used and when the duration of anæsthesia was only ten minutes. No lung complication occurred in any case. The method of producing anæsthesia by cocainization of the spinal cord had not yet been tried in Ottawa. Dr. Prevost referred to the work of Bier, Tuffier and Marx and described the technique of the injection and the necessity for strict asepsis and moderate dosage. Dr. Prevost suggested the use of this remedy by this method for the relief of pain apart from that of operation or labor in certain cases requiring morphine. A spirited discussion followed the reading of the paper after which Dr. Gorrell demonstrated the method of administration of nitrous oxide and ether.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

EDITED BY

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VOL. XXIX

DECEMBER, 1900.

No. 12.

ON THE IMMEDIATE NEED OF A CIVIC HOSPITAL IN MONTREAL.

The inadequate nature of the accommodation provided in the present buildings which are used for purposes of a civic infectious hospital, their tumble-down condition, the impossibility of keeping them properly warmed during the winter months, or of sheltering the patients in the wards there from the elements, these are matters so well known to those of our readers who are in Montreal or have lived here, that it is late in the day, and useless to here point out the absolute need for a totally new building. It will be known also to our readers that our city as a city is practically penniless, so wickedly large a proportion of the annual income of the city has to be devoted to the payment of interest on the civic debt, that not one single department of the municipal work can now, in the absence of funds, be conducted as it should be in one of the larger cities on this Continent. This is an admission it is shameful for us to be compelled to make. The consequence of this state of affairs is that we cannot with any success call upon the municipal authorities to build a new infectious hospital; there are absolutely no funds for the purpose.

But, as Alderman Ames and Alderman Laporte have pointed out, under the new charter it is possible for the citizens to give their consent to obtaining a loan to be paid off in ten years or so, by means of an additional tax voluntarily accepted by the property holders as a body. So that now it is proposed that at the referendum in February next the citizens be asked to consent to a loan of \$100,000 for the purpose of building a new hospital; that new hospital to be built upon land given by the city, and when built, to be conducted, not by the municipal officials, but by the combined authorities of the different general hospitals within the city boundaries together with representatives from the City Council.

It is, however, quite possible that the ordinary run of the smaller tax payers in the city may negative any such scheme which when passed would entail the addition of even a cent or two to the taxes, and this more possibly because here in Montreal we have still a large body of those who do not appreciate the benefits of isolation of infectious cases, who neglect to notify, and who in their crass ignorance freely do everything favorable to the dissemination of disease. To these the need of a new infectious hospital will in no sense appeal.

Cruel as it is to the individual it is, we feel, almost a benefit to Montreal that within the last few weeks there has shown itself an epidemic of scarlet fever so considerable that already the wards of the present Civic Hospital are full to overflowing and in certain parts of the city the schools have had to be closed. These patients cannot, in December, be properly lodged and attended to in the present building and the danger to which the patients are subjected and the further danger and misery that is entailed by the fact that other patients have to be isolated and kept at home, should rouse everyone in Montreal to realize the absolute urgency of the case. We trust that our readers in their visits to various homes throughout the city in dealing with all sorts and conditions of men, will bring to those men and women a realization of the facts of the case and will so influence public opinion that in February next the passage of the consent to a new loan for a new hospital be secured by an overwhelming majority.

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