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THE  
MONTREAL MEDICAL JOURNAL.

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VOL. XXV.

JUNE, 1897.

No. 12.

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**Original Communications.**

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THREE CASES OF CARCINOMA OF THE MIDDLE AND  
UPPER PORTIONS OF THE RECTUM.<sup>1</sup>

BY

JAMES BELL, M.D.,

Professor of Clinical Surgery, McGill University; Surgeon to the Royal Victoria Hospital; Consulting Surgeon to the Montreal General Hospital.

I venture to bring before the Society to-night the reports of three cases, upon which I have recently operated, of carcinoma involving the middle and upper parts of the rectum. The relative frequency of this condition, the obscurity of the symptoms attending it in its earlier history, and the successes achieved by modern operative methods of treatment are my reasons for bringing these cases before you.

They are as follows :

CASE I.—H. B., *æt.* 58, was admitted to the Royal Victoria Hospital, on the 13th of June, 1896, complaining of diarrhoea and hæmorrhage from the bowels, and loss of flesh and strength. Diarrhoea and hæmorrhage had lasted for about a year. Loss of flesh had become noticeable about six months before coming under observation, and he had had three attacks of intestinal obstruction with stercoral vomiting in the previous December, January, and February respectively. He had also had another attack of obstruction five weeks before coming to hospital. His family and personal history were excellent. Examination of the rectum revealed a hard nodular indurated mass extending lower on the posterior wall of the bowel than on the anterior. Its lower border was fully two and a-half inches from the anus. The upper limit could not be felt from the abdomen. There was no evidence of disease in the other organs. On the 16th of June the abdomen was explored, and the first stage of an inguinal colotomy

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<sup>1</sup> Read before the Montreal Medico-Chirurgical Society, April 9th, 1897.

performed. The upper limit of the growth was defined well within the peritoneal cavity and there was no evidence of invasion of the contiguous lymphatic glands. On the 28th of June, the bowel was opened and on the 29th the mass was excised through Heinecke's sacral incision. The patient was very weak and bore the operation badly but rallied quickly. For some days his condition caused anxiety but on the whole recovery was uneventful. About four inches of the bowel was removed with a mass of infiltrated glands which lay in the hollow of the sacrum. It was impossible to reunite the ends of the bowel and the proximal end was therefore brought out and attached in the upper angle of the wound after removal of the left half of the lower portion of the sacrum. The distal end was inverted and closed by suture. The patient went home on the 6th of August, and wrote me about two months later concerning the colotomy opening. He then stated that his health was perfect, his strength had returned and he had gained fifty pounds in weight. On the 17th of February, eight months after operation I again heard from him through his physician who stated that his health was good and that he was actively engaged in his business. The pathological report of the tumour was given in the following words: "Adeno-carcinoma of rectum."

CASE II.—C. E. F., *æt.* 45, first came under observation on the 23rd of June, 1896, with a stone in his bladder. He had suffered for three years with symptoms which seem to have indicated stone in the right kidney. About one year before coming to hospital the symptoms became distinctly vesical. The stone was removed by lateral perineal lithotomy on the 26th of June. Recovery was uneventful and patient left hospital on the 28th of July for his home. On the 4th of September, he returned complaining of inability to evacuate his bowels and of hæmorrhages from the rectum. On digital examination a hard annular ring of irregular indurated growth could hardly be touched by the end of the finger, quite three inches from the anus. There was no mass palpable from the abdomen, and no evidence of disease in any other organ. His family and personal history were good. The first symptom noticed in the case was constipation while in bed after the lithotomy operation, less than three months before re-admission for the rectal disease. On the 18th of September, the abdomen was opened and explored in doing the first stage of an inguinal colotomy. The upper limit of the growth was defined. There was no evidence of lymphatic involvement, but one of the appendices epiploicæ of the sigmoid flexure presented an appearance of containing a small spot of cancerous infiltration and was removed.

Microscopical examination confirmed the diagnosis of cancer in this little mass. The bowel was opened on the 18th, and the growth removed through Heinecke's incision, on the 28th of September. The portion of bowel removed was about four inches in length and included all the new growth which the pathological report states was: "Adenocarcinoma of rectum." It was impossible to approximate the ends of the bowel and the proximal end was sutured to the upper angle of the wound, the left lower quadrant of the sacrum having been removed as in the preceding case. The lower end of the rectum was inverted and closed by suture. Recovery was uneventful but slow, and the patient was discharged on the 6th of November, thirty eight days after operation with the wound still partially open. In this case there was early metastasis, and the patient died on the 9th of January, 1897, three and a-half months after operation. On the 13th of November his physician wrote me that the wound had made no progress toward healing and that he had that day discovered hard nodules in the parietal peritoneum, in the region of the stomach. On the 29th of January, 1897, he again wrote me that the patient had died on the 9th of that month with a very large liver and nodules all over the parietal peritoneum. By inference there was no local recurrence.

The course of the disease in this case which occurred at a comparatively early age (45) was extremely rapid, producing obstruction within three months of the first appearance of symptoms and spreading by metastasis which had already begun at the time of operation.

CASE III.—Mrs. A. McL., æt. 50, was admitted to the Royal Victoria Hospital, December 8th, 1896, complaining of pain during defecation, constipation and hæmorrhage from the rectum. She was spare, pale and emaciated and gave the following history of her illness:

Two years before coming to hospital she began to pass blood occasionally at stool. In a very short time blood was found with every stool and soon after mucus began to appear with each stool as well. Constipation was noticed about the same time as the onset of the bleeding and grew gradually worse, so that for a long time she had never had a motion without a purgative. Diarrhœa appeared for the first time two days before admission. Pain was only noticed six months before coming to hospital and was felt in the rectum and anus during, and for a short time after defecation. There was also a dull aching pain felt in the pelvis and for the last few weeks, she had been losing flesh and colour and suffering from flatulence for six months. Her menopause had occurred about one year before admission and with the exception of some slight dyspeptic symptoms vaguely described

or due to "liver trouble" she had always been in good health. Her mother had died of cancer of the breast, but apart from this there was no evidence of hereditary predisposition. On examination the lower extremity of a raised irregular annular mass involving the whole circumference of the bowel, friable and bleeding when touched, was felt at about two inches and a-half from the anus. The upper limit could not be felt from either rectum or vagina, and it was not palpable from the abdomen. There was no evidence of lymphatic involvement nor metastasis and the other organs were normal. On the 17th of December, an inguinal colotomy was performed. Exploration of the abdomen showed the upper limit of the growth to be well within the peritoneal cavity but there was no glandular enlargement. On account of an attack of influenza, excision of the mass was deferred till the 7th of January, 1897. It was exposed by Heinecke's incision. A segment of the bowel between four and five inches in length and including the new growth was removed and the proximal end brought down and sutured to the distal extremity. The patient took ether badly and was from the first very much embarrassed with mucus in the air passages and a pretty severe bronchitis followed; with this exception, the operation was well borne and the subsequent recovery uneventful. The wound was packed, around the bowel, with iodoform gauze, (as were the previous cases). I did not carry out my intention of replacing and suturing the divided lower portion of the sacrum, as the bronchitis for some time contra-indicated ether anaesthesia but they fell together, slightly inverted, and united very nicely. The bowel ends also united perfectly, and a large proportion of the faeces is now found per anum, although there is of course some evacuation through the inguinal opening. There is some slight narrowing at the line of suture of the rectum, but no sign of recurrence of the growth. I have advised the patient to wait for some months at least before having the colotomy wound closed, for fear of cicatricial stenosis of the rectum at the line of suture, or recurrence of the disease in loco. As to the nature of the growth, the concluding sentence of the pathological report is as follows:—"The specimen must be regarded as adenoma of the rectal mucosa undergoing change into colloid cancer."

With regard to the frequency of the occurrence of carcinoma in the rectum, I may be permitted to quote Mr. Bland Sutton's statement, (Tumours innocent and malignant) that "of every one hundred cases of carcinoma of the intestine seventy-five occur in the rectum," and it must be borne in mind that this does not include invasion of the rectum by epithelioma extending from the anal margin (a lesion which is not to be confounded with the one under discussion). The

difficulties of diagnosis are well illustrated in the cases here reported. In the first case no rectal examination had been made, and no suspicion of rectal cancer, was entertained until the patient had suffered for more than a year and had become emaciated and debilitated to the last degree, principally no doubt by the absorption of toxic products from the ulcerated surface of the growth and the retained fæces, for although the chief symptom had been diarrhoea, the preliminary colotomy discovered a chronic obstruction with quantities of retained fæces.

In the second case, although I had my finger in the rectum more than once in examining and operating for stone, and although the patient's chief and practically only complaint while under treatment for stone was that he could not get his bowels satisfactorily evacuated, there was no suspicion of carcinoma or any form of rectal tumour until two months later, when the passage of blood by the bowel caused his physician to explore the rectum, with the result that he discovered the growth. In another case which recently came under my observation, moribund with peritonitis, the autopsy discovered a cancerous growth high up in the rectum, above which perforation of the bowel had occurred, allowing the contents to escape into the peritoneal cavity, and yet there had been no suspicion of a rectal growth. It will, therefore, be seen that early diagnosis is quite exceptional and in fact, as a rule, the diagnosis is not made until marked obstruction or hæmorrhage suggests rectal examination. The physician's rule should be, I venture to think, in all cases of long standing derangement of intestinal function, where a definite diagnosis cannot be made and when no palpable tumour can be discovered in the abdomen, to make a thorough rectal examination.

It was the late Prof. Volkmann who laid down the rule more than twenty years ago, that cancer of the rectum, when radically removed, showed no more, perhaps less, tendency to return than cancer of the breast. Prof. Kocher was the pioneer in the attempt to reach the rectum from behind—a method which was developed by Kraske, and which is now recognised as the only possible method of dealing with neoplasms situated high up in the rectum. Thanks to the improvements in our modern methods of operating, we no longer hesitate to open the peritoneal cavity, which is always necessary in these high operations. It would be out of place here to discuss the different methods employed at the present time to reach the rectum through the sacrum. Suffice it to say that by the original method of Kraske the left half of the sacrum from the level of the third foramen and the whole of the coccyx were removed. By the methods of Heinecke

and of Rehn and Rydigier no portion of the bone is removed; it is simply temporarily displaced with its adherent soft parts—in the former, (Heinecke) by a T shaped incision, one arm of which passes across the sacrum on a line with the third foramen, and the other at right angles to it down the centre of the lower half of the bone—the two lateral halves being displaced outwards. In the latter (methods of Rehn and Rydigier) an incision is made along the left lateral border of the sacrum and coccyx through the soft parts. This is joined by a transverse incision through the bone (and soft parts) at the same level as in the previous operation (3rd foramen), and the flap containing the lower half of the sacrum and the coccyx displaced to the right. By either method the bowel is fully exposed and is then easily dealt with.

In conclusion, I would submit the following, as general rules for guidance, in the treatment of malignant neoplasms of the rectum :

1. In accordance with the principles generally recognised in the operative treatment of malignant disease, when the neoplasm is sufficiently localised it should always be removed.

2. In order to determine this point, (localisation), as well as for safety (from sepsis), during and after the operation, a preliminary inguinal colotomy should be the rule.

3. That the ideal operation is, the excision of the growth through healthy tissues and approximation and union of the ends of the bowel, so as to re-establish its lumen. The ideal, though here as elsewhere, seldom attainable, should always be aimed at; and to this end it is better to make the incision in exposing the rectum in such a way that the displaced portions of the sacrum may be replaced if it be thought necessary or desirable to do so.

4. That the sacral route is the only one which can be satisfactorily employed for the removal of lesions in the middle portion of the rectum.

## A CASE OF EXTRA UTERINE FOETATION—OPERATION—RECOVERY.<sup>1</sup>

BY

M. O. KLOTZ, M.B., TOR.

Mrs. E., æt 30, married ten years; three children, the youngest of whom is three years old; her general health has always been good; she had two miscarriages shortly after her marriage, but none since; her menstrual periods have always been regular.

About the middle of last summer she commenced to have a profuse leucorrhœal discharge which continued more or less till about Christmas, 1896. The discharge at the end of each menstrual flow became much augmented and very offensive. During the summer she consulted a Montreal physician who prescribed for her and under his treatment she made some improvement.

The last menstrual period occurred about Dec. 17th or 18th, 1896. When her menses did not return in January, she began to suspect that she was pregnant, but had no special signs other than a peculiar indescribable feeling in the breasts.

The first sign of trouble appeared on Saturday evening, Feb. 13th. On suddenly rising from the sofa on which she had been lying, to rebuke one of the children, she felt a sharp stitch low down on the right side. From that time on she always felt more or less pain in the right inguinal region, but for the next few days the pain did not interfere with her household duties to any great extent.

Tuesday evening, Feb. 16th, while standing at the piano, she felt a paroxysm of pain in the right side again, and became weak and faint. She sat down and after a drink of water was refreshed but the pains were more or less severe all that night.

I first saw the patient on the afternoon of the following day. That morning, *i. e.*, Feb. 17th, she had had several severe 'spasms,' as she called them, in her right side and said she felt afraid of a miscarriage. Superficial examination showed the right ovarian region to be very tender, but no swelling was discoverable; the uterus by external palpation was tender. No vaginal examination was made. There had been no vaginal discharge of any kind since the week preceding Christmas. Bowels regular, pulse and temperature normal, tongue moist, slight headache. Absolute rest in bed with liquid diet and a mixture of Bromide of Potass and Viburnum were prescribed.

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<sup>1</sup> Read before the Medical Society of Ottawa, March 26th, 1897.

Feb. 18th. The patient expressed herself as feeling much better, no severe pains, local tenderness still persisted.

Feb. 19th. Had a restless night, pulse 100, temperature 99 F. During the day she was comfortable but about 10.30 that evening I was hurriedly sent for. I found her suffering severe lancinating pains in the right ovarian region, also over the front of the uterus, bowels had not moved that day; I gave her Sulphate of Morphia gr.  $\frac{1}{4}$  hypodermically at once, to be repeated every three hours till relieved; also ordered hot cloths to be kept applied to the abdomen.

I made a vaginal examination which was extremely painful; the posterior vaginal wall was somewhat swollen and tender, the cervix slightly softened and in a state of chronic inflammation, several small cysts presenting on the surface, the uterus was enlarged, slightly movable, very slightly tender and somewhat anteflexed; left broad ligament, tube and ovary apparently normal, the right adnexa were so extremely tender that any attempt at a satisfactory examination was out of the question.

Feb. 20th. Condition remained unchanged; prescribed Acetate of Morphia, gr.  $\frac{1}{8}$ , and dilute Hydrocyanic acid  $\mathfrak{m}$  iii, every three to four hours, as required, to relieve the pain, also hot linseed poultices to be kept applied to abdomen. Ordered a glycerine enema,  $\mathfrak{ss}$ ; two were given but with no effect. Gave Calomel, gr. ii, at 10 P.M., which the patient vomited.

Feb. 21st. A Seidlitz powder was given at 8 A.M., but was rejected. The diet was reduced to milk and soda water; the pains were more or less severe all day; the bowels remained obstinately constipated, some tympanites; the tenderness extended from the right side over the front of the uterus and somewhat towards the left side; the most acute point however was over the right ovary.

About 7 P.M., the pains suddenly became very severe and paroxysmal in type and the patient twice seemed to faint. I was sent for and found her somewhat revived. She had vomited her milk and soda water in the morning, retained it during the afternoon, but about 6.30 P.M., commenced vomiting again and this marked the onset of the acute pains. During the afternoon she had been supplied with some orange juice contrary to orders. The pains were most marked in the right iliac region, sharp, sudden and stabbing in character and put the patient into the most intense agony. I gave her Sulphate of Morphia, gr.  $\frac{1}{2}$ , hypodermically.

The whole history now seemed to point more and more towards an extra-uterine pregnancy. One missing link however was the absence of any sanguineous discharge; thus far there had been absolutely

no discharge whatever. At repeated vaginal examinations I found the right appendages to be very tender, but owing to the pain caused to the patient could not definitely map out any swelling.

The whole history so far, of having last had menses on Dec. 17th, 18th, none appearing in January, the subjective symptoms of a peculiar feeling in the breasts such as she experienced only when pregnant, the sudden attack of intense paroxysmal pain on the right side, more or less constant, the acute attack of this evening, Feb. 21st, with fainting attacks, all this array of symptoms was so strongly suggestive of an extra-uterine foetation that I decided to call in Dr. Prévost for consultation.

Feb. 22nd. Condition unchanged, two simple enemata of a quart each had no effect; patient vomited more or less all day, considerable tympanites.

In the evening I related the history to Dr. Prévost, who then saw her. Temperature was 99° F., pulse 80 and fairly strong. She had not urinated all day, and per catheter about a quart of urine was drawn off.

Dr. Prévost examined her, advised symptomatic treatment and Calomel, gr. x, at 11 P.M. He thought everything pointed to an extra-uterine pregnancy.

Feb. 23rd. Dr. Prévost and I saw her at noon. She had passed a good night, vomiting had ceased and since early morning a bloody discharge had commenced to ooze out of the vagina. On removing the napkin we found there a most perfect and beautiful decidual cast of the uterine cavity, no ovum. Vaginal examination revealed an enlargement of the right tube apparently close to the right cornu, and which was very tender to touch. This practically settled the diagnosis.

A high rectal enema gave good results in the afternoon. The stomach became settled, so the diet was increased to include soups, broths, gruels and champagne. Hot dry flannels were still kept applied to the abdomen.

Feb. 24th. Patient comparatively well, tenderness in right side still persisted, slight bloody discharge, temperature slightly elevated (99°). Ordered douche of Perchloride of Mercury 1.2000, to be given night and morning.

Feb. 25th. Patient felt well, slight external tenderness. Vaginal examination almost painless, uterus only slightly tender, anteflexed and deflexed towards the left side. On the right side, at the upper part of the uterus, was a swelling which I could not separate from

the uterus; it was very tender on bimanual examination and it seemed to move with the uterus. The pulse and temperature were normal.

Feb. 26th. Patient feeling well. Bowels moved after compound Jalap powder, gr. xx. She was moved to the 'Convalescent Home' for operation.

Feb. 27th. Patient etherised. Before the operation Dr. Prévôt made a vaginal examination and discovered a hæmatocele in Douglas' poche. No evidence of this was apparent when I examined the patient on Feb. 25th, since which time she showed no signs of hæmorrhage.

Dr. Prévôt, performing the laparotomy, made a median incision which revealed the fœtal sac on the right side, adherent to adjacent parts. The tube had ruptured and several handfuls of coagulated blood were removed. The sac was partly adherent to the posterior surface of the uterus. A ligature was applied and the sac, ovary and tube removed entire. The ovary was perfectly healthy. When the sac was opened the amniotic fluid spurted up and a beautiful small fœtus, about an inch in length, was found floating inside attached by its little cord. The placental attachment was just over the site of the rupture in the tube.

All blood clots were carefully removed, the oozing controlled and the abdominal wound closed by three rows of sutures. The patient made an uninterrupted recovery, the stitches being removed on the ninth day, and on March 14th, she left the hospital to complete her convalescence at home.

The most interesting points in this case naturally centre in the diagnosis. Regarding the etiology of the condition, in general terms an extra-uterine fœtation is due to any condition which interferes with the free passage of the ovum into the uterine cavity, *i. e.*, an interference with the ciliary action of the mucosa of the tube and deficient peristalsis. Conditions which are responsible for this are: chronic salpingitis, constrictions, flexions and adhesions due to inflammatory changes within the tube as well as without, mucous polypi obstructing the passage and diverticula in the tube in which the ovum may become lodged.

In the present case we have a history of two miscarriages, a period of sterility of three years, and finally a profuse leucorrhœal discharge during the latter part of 1896, all pointing to a diseased condition of the endometrium which probably extended to the right tube as well.

The diagnosis in these cases briefly may be said to depend on (1) A history of probable pregnancy; (2) Sudden sharp paroxysmal pains on one or other side; (3) Irregular bloody discharge which may contain bits of decidual membrane; (4) A tumour mass situated to one side of or posterior to the uterus with concomitant enlargement of the uterus. Given a case in which one had a history of pregnancy, could detect tumour on one or other side, and knowing the uterine cavity to be free from any contained ovum, the problem would appear simple enough. In this case the diagnosis at first sight lay between (1) Appendicitis; (2) Acute Salpingitis; and (3) Threatened Abortion. Against appendicitis was the suddenness of the onset, the most tender point was below MacBurney's, bowels had been regular, no history of digestive disturbances and there was no inflammatory reaction to speak of. The principal point in favour of acute salpingitis was the location of the pain; against this however was the absence of any symptoms such as one would expect in an acute febrile condition, the pulse and temperature being practically normal, or but very slightly elevated; also there was no acute metritis of which a salpingitis is the common sequence, nor was there any sudden suppression of the menses which might give rise to the condition.

Regarding threatened abortion, the pain was too much localised on the right side, the characteristic pains we find in the back were wanting, and there was also the absence of any bloody discharge.

The vaginal examination removed all doubts regarding the possibility of appendicitis as the pain was intimately associated with some pathological condition of the adnexa of the right side.

Threatened abortion could also be pretty safely eliminated, there being no patency of the os, no discharge whatever, the uterus not being tender to any appreciable extent, and also there being no expulsive pains of any kind.

The principal symptom which to my mind was wanting to complete the diagnosis of extra-uterine foetation was the presence of a sanguineous discharge.

Without the use of the sound it was impossible to tell whether the uterus contained an ovum or not, and as the uterus was enlarged and certainly had all the signs of the pregnant organ, I did not feel myself justified to use that instrument.

The two principal and only points on which the diagnosis rested in this case were: (1) The history of probable pregnancy; and (2) The paroxysmal pains, especially those of the evening of Feb. 21st, when the patient twice fainted. Thus far there was neither tumour nor discharge in evidence.

The expulsion of the decidual membrane however a few days later, clinched the diagnosis and subsequently one could detect, high up on the right side, the enlargement due to the fœtal sac.

Another point of interest here, is the amount of blood found in Douglas' pouch. The hæmatocèle detected just before the operation, was certainly not to be felt two days before. At no time did the patient show signs of acute hæmorrhage, such as shock, collapse, rapid and feeble pulse, clammy sweats, etc.; her pulse never went above 100, being always full and regular.

## DOCTORS AND THE LAW.

BY

PEERS DAVIDSON, M.A.,

Of the Montreal Bar.

(Concluded.)

The decision was given upon the principle that the communication between individuals even though in good faith must be fair and impartial without exaggeration or the introduction of irrelevant or calumnious matters. If then a physician is asked by a patient as to the status or the experience and skill of another physician in a special branch, he must be careful only to say what is necessary for the guidance of his patient in making a choice, and, if it be necessary to enter into details, to be reasonably certain that his information is correct.

### CHAPTER IV.

#### THE DOCTOR'S CRIMINAL RESPONSIBILITY.

In relation to the Criminal Law the medical man undergoes some responsibility.

##### *(a) For Operations and Medical Treatment.*

The strictest guardian of the honour of the profession must admit that there are times when death ensues from medical or surgical treatment. It is inevitable that strength and vitality, and the physical effect of drugs and surgical operations are sometimes miscalculated and that as a consequence death results. On this point the text of the Criminal Code is clear. (Cr. Code Sec. 57). It reads as follows: "Every one is protected from criminal responsibility for performing with reasonable care and skill any surgical operation upon any person for his benefit, provided that performing the operation was reasonable, having regard to the patient's state at the time, and to all the circumstances of the case."

Section 212 is also applicable: "Every one who undertakes (Except in case of necessity) to administer surgical or medical treatment, or to do any other lawful act, the doing of which is or may be dangerous to life, is under a legal duty to have and to use reasonable knowledge, skill and care in doing such act and is criminally responsible, for omitting without lawful excuse, to discharge that duty if death is caused by such omission."

The only charge within the range of possibility against the doctor under these sections of the law is "Manslaughter," *i. e.*, the killing of

a human being without malice aforethought, or in other words, by reason of criminal ignorance, neglect or want of skill. Under the Criminal Code then there are three essentials to protect the physician :

1. Reasonable care.
2. Reasonable skill and knowledge.
3. A reasonable operation in view of the patient's state at the time, and all the circumstances of the case.

Notwithstanding the high character of the medical profession in this city and notwithstanding the improbabilities of an operation without the above requirements, it may at any time happen to a surgeon, that ignorance or spite on the part of a third party may be the cause of laying an information for manslaughter when the operation has resulted in death. It is therefore a wise principle to adopt in all cases of doubtful operations to call in a consultant and perform the operation with his approval. This precaution should be observed even by the leader of his profession.

*(b) The Doctor's Responsibility for Participation in or  
Concealment of Crime.*

As I above intimated, we find the professional secret in its relation to the Criminal Law as well. In this domain however, it is not so much a question of responsibility, for that can be guarded against, but one concerning the physician's conscience. I believe that there is no profession in the world that observes its obligations and its rules of etiquette with greater sincerity and severity than the medical profession. When therefore they are face to face with what they must feel to be a public obligation upon all men to assist in the detection of crime, they are in a position of extreme difficulty. The question arises more particularly in connection with abortion, poisoning and services to the criminal subsequently to his crime. In France the Criminal Code (Art. 30) requires that "Every person who may have been a witness of an attempt against the public safety, whether against life or property, should give notice of it to the public prosecutor." We have no such law.

The doctor is however impelled to give information respecting crime which has come to his notice during his professional work by two impulses comprised within two of the exceptions above given.

The first is: The impulse to free him from the danger of being held to be an aider and abettor of a crime or an accessory after the fact.

The second is the impulse to protect society from crime and to punish the criminal.

Under our law the distinctions between principals of the first and

second degree, and between accessories before the fact are done away with; and *all* are expressly made principals or parties to, and equally guilty of an offence who: (a) actually commit it; (b) who do or omit anything to help its commission; (c) who abet or assist at its commission, or (d) who counsel or procure its commission. (Crankshaw, Cr. Code, Sec. 61 and 62).

If therefore the physician is face to face with an attempted poisoning, or he has strong suspicions of such, but continues his treatment attempting to cope with its results, and does not seek to remove the cause, he will find himself placed in a dangerous position legally, and an uncomfortable position professionally.

The conclusions are much the same in cases of abortion. The gentlemen of the profession, of higher standing, whom I am now addressing, at times called in in consultation as a last resort, to save the unfortunate woman, do not consider the risk of the criminal law which they incur. They act in good faith and to save a fellow being, but at the grave risk of being technically considered a principal in the crime. They should remember always that they are guilty in the eyes of the law if they assist in the slightest degree, even from purely professional motives and that their failure to inform must raise the presumption of criminal intent.

“An accessory after the fact to an offence is one who receives, comforts or assists any one who has been a party to such offence in order to enable him to escape, knowing him to have been a party thereto.” (Cr. Code Sec. 63). They are not considered as principals and are tried separately.

One does not become accessory after the fact by merely neglecting to inform the authorities that a crime has been committed, or by forbearing to arrest the offender. (1 Hale, P. C., 618, 619). The test of an accessory after the fact seems to be that he renders the principal offender some active personal help to enable him to escape punishment, as, by furnishing him with money or food to support him in hiding, or by supplying him with a horse to enable him to fly from his pursuers, or a house or other shelter to conceal him in, or by using open force and violence to protect him. (1 Bishop, New Cr. L. Com. p. 422: 4 Bl. Com. 38.)

It is therefore evident that a doctor runs no risk of a criminal charge by tending the wounds of a murderer, or receiving and tending him in ordinary course in a hospital, and yet remaining silent. Nor is he liable if he tends and heals a woman suffering from the effects of an abortion, *already completed*, nor again a would be suicide. He should, however, exercise great caution that he commits

no overt act to protect or conceal the offender, nor defeat the attempts of the officers of justice to find him or her. When requested he should be careful to give them all information which can assist them.

I do not think that it comes within the scope of this paper to discuss the question, whether the doctor should give information respecting crimes and attempts at crimes, which he obtains in his professional capacity, when he is in no danger under the criminal law or as respects his professional reputation. That is not only a question of Medical Ethics, but also a question of morals. It does not come within the domain of a legal discussion. The medico-jurists discuss the question pro and con at great length and with great diversity of opinion. Some fine distinctions are made. For instance, Trebuchet in his "Jurisprudence de la Medicine," thinks that in cases of abortion the doctor should be silent if it be apparently a first offence, and if an honourable family would be ruined by the disclosure. But that if the crime be committed upon a woman of low character by persons who make a practice of it they should inform. On the other hand, Mr. Justice Hawkins in his charge in the *Kitson vs. Playfair* case, considered it a "monstrous" thing to inform in either case, of course provided the doctor personally ran no risk by his silence. In this matter, however, doctors must take into serious consideration how far they render this crime the more prevalent and easy of accomplishment by their silence.

The same remark applies to the case in which they possess most valuable information for the authorities when striving to discover the perpetrator of a dastardly crime. The authors are rightly at one in considering it a paramount duty of the medical man, transcending all others, to inform when by doing so he is able to save the life of a fellow being.

In all these cases a doctor incurs no liability for damages. He should first be certain of his facts and reasonable in his suspicions and act in good faith and without malice. There is, under no circumstance, necessity to lay a public information in the Police Court. A confidential and private conversation with either of the Police Magistrates is sufficient. The doctor has fulfilled his duty to the public and to society in every respect by throwing upon them the responsibility of further investigation and a criminal prosecution. In the latter he appears simply as an ordinary witness under order of the Court.

There is no more noble profession than the practice of medicine. To heal the sick is a divine mission. Medical men, the world over, are famous for their charity, high ideals and great earnestness of purpose to benefit the human race. But they have at times to look beyond the immediate circle of their efforts and realise that they are at the same time simple members of that great complex whole—Society, which demands for its existence, the assistance of one and all of us.

# ALBINISM.<sup>1</sup>

BY

W. H. DALPÉ, B. A., MONTREAL.

*Definition.*—Albinism is usually defined as a hereditary condition marked by a complete absence of pigment in the iris, skin and hair. However correct this statement is, a long residence with albinos in this Province and in New England, has led me to associate with this condition certain functional and organic alterations in the skin and appendages, and about which I will have to say a few words.

Albino means white and was a term used by the Portuguese to designate the white negroes whom they met on the Western Coast of Africa; by extension it is used to designate any pigmentless individual.

*Occurrence.*—Albinism is an affection of a world-wide distribution and not limited to the dark races as was surmised. In the Medical Literature, of Europe and America, several accounts have been given, none better or more tersely written than that found in Morrow's Handbook of skin diseases, by one of our best dermatologists.

This affection is not peculiar to man but similar conditions are found to exist among the animals, birds and even insects.

## CHARACTERISTICS.

*Eyes.*—The irides are usually perfectly pigmentless. In many, these transparent perforated screens take on a pinkish or reddish hue from the capillaries of the fundus. Balmanno Squire reported a case, which he calls atypical and in whom the irides were dark blue, *Lancet*, Feb. 1895. Zeimssen recognising that such blue irides do occur, claims this is due to some phenomenon of interference of light. They have appeared to me, on more than one occasion, very much chameleon-like, the most constant colours being the white and the pink.

Consequent upon this pigmentless condition of the irides, the camera obscura of the eye is changed to a camera lucida, and the image falling on the retina, being more diffuse, loses proportionately of its clearness.

Again as the sensitive eye-plates of the retina are ill-protected, nystagmus,<sup>2</sup> photophobia,<sup>3</sup> coloboma, (Wm. Geo. Sym, Edin.), and oscillatory movements of the eyes may be induced (A. J. Balmanno

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<sup>1</sup> Prize Essay McGill Medical Society, 1897.

<sup>2</sup> "Nystagmus" and "oscillatory movements" though in some respects analogous, are not necessarily identical.

<sup>3</sup> Usually congenital, and hence it may be doubted that non-pigmented irides hold any causative relations to it.

Squire.) But it must not be inferred that all albinos will evince what Prof. Shepherd happily terms "the screwing of the eyelids" under a strong light; neither are they all weak-eyed; Squire's case could read perfectly in daylight and in the numerous cases which it was my good fortune to see, although their vision was keener at night, yet by daylight they saw perfectly well, neither did I see any resort to the wearing of glasses. (*Ab albinismi causa.*)

*Hair.*—The hair is possessed of a greater or less degree of whiteness, at times immaculate, at times flaxen, whitish yellow, always exceedingly fine and of a silky lustre, sparse, leaving the brow and nucha well denuded and apt to leave the corona bald in men.

This condition especially in women, often, if not always, demands the wearing of false hair. In children their hoary denuded head in the presence of the other conditions makes a picture most sad to behold.

Beards were not to be seen among the men in my cases, yet some would see fit to encourage the tonsorial artists, at long intervals, by requesting the removal of what seemed to me more like down than beard. What this would come to, if left unmolested, I am unable to say, other than it must of necessity be a caricature of the genuine article.

In the axillæ and over the pubes, the growth of hair was seen to be more vigorous, and the hair yellowish-white, curly, more brittle—a condition which was no doubt due to the hyperidrosis of the part.

*The Skin* is also devoid of pigment, but it may acquire a rosy colour from the underlying vessels, in places where the integument is thin as over the cheeks and the dorsum of the hands. This gives the albinos a pale, sallow, sickly appearance; extreme anæmia may appear to exist.

The skin is soft to the touch, dry, in some places very thin. Yet in the portions of the body subjected to pressure as the surface of the hands or the soles of the feet the skin was granular, rough, full of rugæ not only in working people but in individuals not inured to hard labour and in whom, presumably, this condition could not be due to this cause.

In the normal, the pigment occurs between the cuticle and the cutis vera; here seemingly an epiblastic derivative has one of its functions absent, whilst in the eye some mesodermic derivative is at fault.

*The Nails.* I am now going to speak of a condition which was found to exist concurrently with those already named, in a great number of cases. I refer to a particular conformation of the nails; this was so characteristic, so general in the cases that came under my

notice, that a diagnosis might easily have been made by a single exhibition of the finger tips. The nail-base or matrix does not reach to the end of the finger; is only about half as long as in other people, and is made up of a semi-circle directed upwards, and a triangle looking down towards the finger tips. In the normal the nail matrix is more circular or oval.



Normal.



Albino.

Moreover the tip of the matrix was raised and the nail given an arched direction so that on a longitudinal section it would look very much like a claw (onychogryphosis) a resemblance which was very much increased by a pathological overgrowth or hyperonychia, rendering them clumsy, thick, brittle, useless for scratching or opening a knife-blade. Albinos in whom this condition of the nails is found usually either hide them in other people's presence, or, to improve their appearance, trim them very short, close to the stumpy base or matrix.

Why such a condition should occur concurrently with albinism, I am not in a measure to explain. The points which especially struck me were the congenital nature of this gryphotic condition; its frequent if not absolute association with the pigmentless condition; the involvement of all the nails at the same time. The condition which most resembles that just referred to, is probably onychomycosis due to a fungus or a somewhat similar one due to *tinea favosa* or *trichophyton tonsurans*. Here the nails are brittle, frayed out, intersected by furrows, opaque, grayish or yellowish-white, and are lifted up and gryphotic, disfigured; the matrix being implicated, changes of growth are also present and the matrix may be painful, swollen, suppurative, (Zeimssen). This author also includes as possible etiological factors, scrofulosis, cachexia, oligæmia, and Billroth also mentions moist gangrene. Again in scleroderma, sclerodactylism may simulate onychogryphosis. But in all these changes there would be a lack of conformity to the same type, an irregularity in distribution, a history of infection or a progressive condition, in some suppuration, in others extreme deformity of the finger tips. Moreover these would not be congenital as was that condition which I observed in my albinos.

The *teeth* were also found to be hypoplastic or stunted in a variable

but always in a marked degree ; they were squarish, and stood apart ; this gave my albinos the appearance of old people, the mouth receding with its stunted teeth, standing in marked contrast to the prominent chin and nose.



Here there was no gouging of the middle incisors as is apt to occur in congenital lues, nor was there any other evidence of this virus in the system ; however, in one family I was given to understand that a leucic taint existed. Their teeth did not seem to tend to early decay.

*Bromidrosis.* A fetid perspiration has long been recognised in some pathological conditions ; thus scrofula, rheumatism, lues, the parturient state have all been associated with a particular emanation. However in some it cannot be connected with any morbid conditions. In such albinos and sons of albinos with whom I played, walked, slept, a peculiar, penetrating, not absolutely unpleasant odour was at once perceptible, which forced ablutions could only dispel for a limited time. Moreover, it was asserted to me that this was increased in females at the menstrual period, but whether it was complementary or vicarious my informers were unable to state. *Excepi cum grano salis.* Zeimssen says the functions of the skin are normal.

The albinos barring these physical differences do not seem to be an inferior class of people. The authors usually say they are of a weakly constitution, but Zeimssen says this is a rule with manifold exceptions. I have always been of opinion that this was more apparent than real. The general cachectic appearance might easily be attributed to the general pigmentless condition of the skin and hair, the weak eyes and receding mouth. Many, I have found, to be surprisingly agile and strong. Several severe shakings which I got at school, by an albino, the seventeenth child of an albino mother, have forcibly convinced me that albinos are not physical degenerates. This particular boy, conscious of his own strength and endurance, was wont to afford us evidences of them by lifting steel rails, and by running to a pump, a distance of 150 yards, in cold stormy mid-winter nights, bareheaded, barefooted, and with only thin underwear on, and there to fill his pitcher and to bring it back full. Nor was he ever sick as a conse-

quence. Neither was he intellectually deficient, but he now wears a clerical dress, with at least, much decorum and success.

In a family of which four generations have come under my observation, the representative of the first was a man of unusually ready wit; his son, though only five feet three inches in height, was a wiry little personality; in the third generation were observed four professional men and a fifth an albino, a sculptor.

Of course the albinos ordinarily are not all physically and intellectually the par of those just referred to. My albinos were for the most part long-lived, not phthisical; I have not yet come across a case of idiocy amongst them.

They are generally discriminated against when it is a question of giving or taking in marriage, and they, as a class, feel that a stigma attaches to them, whereby they are often rendered abashed, morose, melancholic. This has been noted by most authors. Menfolks usually marry others than albinos, but the women usually do not marry at all, probably for want of suitors, unless there be a large dowry in sight. Thus the increase amongst the albinos is not a very rapid one.

The sexual propensities are very highly developed in some if not in most and have been noted in the non-albino progeny of mixed unions.

*Sed hoc non semper albinum est.*

*Etiology.*—Heredity is recognised as the most important factor in the causation of the disease. Thus some parents, immediate or remote are looked upon as the channel of transmission; the atavism may be so great that the cases may appear sporadic. Case of Balmanno Squire, the *Lancet*, Feb., 1895. The cases of Geo. Win. Sym, Edin.

The children of an union between an albino and a normal individual are for the most part normal; rarely do we see the majority of them pigmentless. A child having a full development of hair may yet have a stunted growth of teeth or may even have a partial onychogryphosis, or again these may disappear from one generation and reappear in some members of the next to tell its tale of a lurking albinism.

As a second possible etiological factor some include some telluric conditions. Thus it is claimed that it occurs endemically in Loango or Lower Guinea. However, such telluric causation is usually not admitted. Beyond this we enter the realm of hypothesis. Are we to look for a cause within the part affected or to some anomaly in the ductless glands? No answer is at present forthcoming.

*Classification.*—Bärensprung classified pigment atrophies into *acquired* albinism or vitiligo, and *congenital* albinism which he further sub-divided into *universalis* and *partialis*. The first and the last he

misused, using the one for morphea and *scélérodémie en plaques*, the other for vitiligo. (Zeimssen.)

Vitiligo or leucopatia acquisita is a progressive pigment atrophy, which is regardless of sex, appears usually between the tenth and thirtieth year, may remain stationary or extend over the whole body or may even disappear spontaneously. It may run a symmetrical course on both sides of the body. The skin around these white spots usually becomes more pigmented. Näcke Lévy. It is often seen in cases of acquired syphilis. When it involves the scalp, canities result. *Berliner Klinische*, Feb., 1894. In the course of the diseases of the thyroid leucopatia acquisita may occur and by the total involvement of the skin may even simulate albinismus universalis. In Graves' disease, however, there would be tachycardia, an enlarged thyroid, venous pulsation, muscular tremors, and characteristic eye-changes.

In scleroderma either in the localised or the diffuse form, following hyperæmia and preceding induration, leucoderma often appears and often with it dystrophy and sclerodactylism. Here, given a very chronic case, symmetrically distributed gryphotie albinism might be very closely simulated. But in scleroderma, sensibility and secretion are lessened, there is bradycardia, and intellection is lowered.

In some cases of albinismus acquisitus partialis, the area of pigment atrophy may correspond to the area of supply of some nerve. From clinical notes I obtained two remarkable cases, one with a pigmentless spot corresponding to the hypogastric branch of the ilio-hypogastric, another with a white spot corresponding to the distribution of the subcutaneous *colli medius et inferiori*. I might also say that a somewhat similar auto-observation was made by myself several years ago.

Of congenital partial albinism, I need not say much. The colour merges gradually from the pigmentless spot into that of the healthy surrounding skin which is not more pigmented than elsewhere. In some canities may occur without a lack of pigment in the scalp. Stricker refers to a white lock of hair transmitted for six generations.

A pseudo-albinismus universalis congenitalis, I think, may be rightly said to occur. I am very much inclined to look upon Sym's four cases as such. The hair was extremely fair but not quite white; the irides of an exceedingly pale blue colour, not pink. It is not an uncommon thing to find individuals with very pale yellow or flaxen hair, eyebrows and ciliæ, and with almost pigmentless skin and irides, so that one almost feels as if they should be classed in a sub-variety

of albinism. These pseudo-albinos would be characterised by the fact that the lack of pigmentation is not so marked nor so persistent, by the gradual deepening in colour noticed in the hair as age advances by the appearing of freckles; here again beards will often grow, though not always; nor will there be usually gryphotic changes in the nails, nor hypoplasia of the teeth. Yet here, as in many other things, fast and hard rules are only good enough to be broken.

# Ephemerides, 1897.

By WILLIAM OSLER, M.D.

## XIX.—VERTIGO AND OCULAR DEFECTS.

The association of vertigo and ocular defects has long been recognised. The occurrence, too, of ocular symptoms in the severer types of labyrinthine vertigo is also well known. The most satisfactory account in any of the standard works is that by Gowers. "Ocular symptoms, secondary in origin, are present in some instances. In cases of ear disease, an increase of pressure within the ear, as by pressing firmly the antitragus over the opening of the meatus, may cause nystagmus. During paroxysms of vertigo the patient may be conscious of a jerky movement of objects, a quick motion in one direction and slow return, like that sometimes produced by nystagmus, and I have known it to correspond with intermitting tinnitus. This apparent movement may sometimes alone be caused by pressure on the meatus; and nystagmus may be produced, with vertigo, by disease of the middle ear, of course through the secondary affection of the labyrinth. It has been known to persist after the ear disease was cured, even for ten years. I have several times known double vision to occur during or after a paroxysm: in one case of pure aural vertigo, each attack was followed by double vision, jerky movement of objects, and distinct erroneous projection in the direction of the movement, so that, if the patient attempted to touch an object, the hand went too far in that direction. Slight diplopia is sometimes due to nystagmus that is not quite equal in the two eyes. It is apt to cause an error in diagnosis."

Gowers does not refer to the association of refraction errors with vertigo, nor under the section on treatment he does not suggest that they should be sought for.

Recent literature contains several cases in which dizziness and vertigo have been completely relieved by glasses. So far as I can learn, however, none of the cases were of such severity as to come in the category of Menière's disease. In the following case the vertigo, which was of the most intense character, and had persisted for eighteen months, was completely relieved by properly adjusted glasses.

Mr. H., aged 54, consulted me on the 4th of April, 1894, complaining of vertigo, and stomach trouble. He has been a healthy man with the exception of attacks of biliary colic.

The patient is a brick-maker by occupation. His habits have been good. He has been a steady smoker until about a month ago.

For about eighteen months he has had attacks of severe vertigo associated with flatulency. The first one occurred while he was sitting at the table in a restaurant drinking claret-punch. He jumped up and said to his wife, "Catch me, catch me," and had to get hold of the table to steady himself. He had a sensation as if a cannon-ball had burst in his head, and as if everything was in motion. The attack lasted about an hour. He did not vomit, but looked pale, and broke into a profuse perspiration. He has had only two attacks of similar severity, one while in his carriage. He said it seemed as if the horse was down and everything was turning over. This attack lasted about an hour. He had to go to bed and felt very badly, and after it he felt confused in his head.

The milder attacks have occurred with great frequency. Scarcely a day passes without one or two; thus, yesterday after breakfast his stomach felt badly and he had a good deal of belching. Then, as he expresses it, his head went off at once, and he generally cries to his wife, "Come and catch me." Coming home just before dinner he had another spell. When they are at all severe he gets pale and cool, and perspiration rolls off his face in beads. He belches all the time during an attack, and on some days he belches continually. He had no pain whatever in the chest or elsewhere. The attacks do not come on during sleep, but he has had several of them while in bed.

From his statement the vertigo apparently is both subjective and objective. Objects go to the right, but he feels that he turns also. In the attacks it is impossible for him to walk. It appears to him that one foot goes about ten feet higher than the other. If the head is held tight the attacks do not appear to be so severe. He has never lost consciousness, though he sometimes feels faint. There is no throbbing at the heart. The longest interval he has ever passed without an attack is two weeks.

He lays the greatest stress upon the condition of the stomach, and says that everything comes from it, and that the belching is incessant and most distressing.

Though he did not complain of difficult hearing, it was evident that he was a little deaf, and on questioning him he stated that deafness had been coming on for several years past, particularly in the right ear, in which there is a ringing noise almost constantly. In the spells it is much louder, and sometimes there is the explosive burst already spoken of. He thinks he is never without the noise in the ear.

Dr. Theobald, to whom I referred the patient for examination of

the ears, wrote that there was deafness in the right ear, due to changes in the auditory nerve or its expansion in the labyrinth, and that there was also slight deafness in the left ear. The examination of the eyes showed a rather high grade of hypermetropia, with a decided amount of astigmatism, which he thought would be materially benefited by glasses, as the error of refraction was possibly an important factor in causing the attacks: the condition of the ears was such that it was reasonable to suppose that they also might have something to do with it. The change in the patient from the use of the properly adjusted glasses was most remarkable. He came to see me again towards the end of May, and said that he was living a new life; that not only had he had no severe attack, but that the milder attacks had disappeared completely. His stomach still troubled him, but he said was not nearly so bad as it had been.

Towards the end of June the patient began to have attacks of severe vomiting, and died within two weeks of the most aggravated, uncontrollable attacks due, as was shown post-mortem, to an acutely developing malignant disease of the stomach.

From the date of the adjustment of the glasses by Dr. Theobald about the 10th of April, until the 22nd of June, when he took to his bed, he had been very actively at work, had gone about alone, and been able to drive himself, which he had not done for more than a year and a-half; with the exception of the dyspepsia he had been as he expressed it, in first class health.

The central connections of the space nerve or vestibular branch of the auditory offer an explanation of the oculo-motor phenomena in labyrinthine vertigo. Bonnier<sup>1</sup> has discussed the question from various standpoints. Of the three nuclei of the vestibular nerve, two, the internal and the nucleus of Deiters, send fibres directly to the nucleus of the sixth nerve on the same side. A second less direct association is through the superior olive, which receives branches from the same centres and has connection also with the sixth nucleus. A third association is with the third and fourth nerves through the direct and crossed connections which exist between their nuclei and those of the sixth pair.

After referring to well known facts bearing upon the experimental production in animals of nystagmus and strabismus, Bonnier reports several cases of great interest, in one of which disturbance of accommodation followed auditory irritation. In a patient with a plug of wax in the meatus and transient deafness, the irrigations drove the plug against the drum. There had never been vertigo, only slight

<sup>1</sup> *Revue Neurologique*, Dec. 15th, 1895.

deafness and roaring. Following the injection the accommodation was paralysed in the affected side, and continued so for several hours. On the following day a second injection caused the same symptoms.

A condition of irritation and instability of the space-nerve centres may possibly be kept up by serious accommodation errors. Physiological, clinical and well established anatomical data, show the association between the labyrinth and the oculo-motor mechanism. The case which I here report bears on a practical aspect of the question, inasmuch as the patient obtained complete relief from a vertigo of the most intense and persistent character by the use of carefully adjusted glasses.

# RETROSPECT OF CURRENT LITERATURE.

## Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

### Cancer of the Rectum.

QUÉNU. "Étude clinique sur le cancer du rectum."—*Revue de Chirurgie*, 10 Janvier, 1897.

Dr. Quénu gives in this paper the results of some very close study of the onset of cancer of the rectum. Nothing is clinically more obscure than the onset of malignant disease in this region. The disease has often made great progress before any alarming symptoms are developed. The evolution to a certain point, of an epithelioma of the rectum is compatible with an appearance of health. Pain may be absent or only a vague sensation of weight about the sacrum, such as many people suffering from constipation complain of. Among the early symptoms which should arrest the attention of the surgeon and lead to further enquires, may be mentioned: At the outset—In a certain number hæmorrhage is the first manifestation noticed; in others abnormal sensations or a failure of the general health.

Hæmorrhage may occur suddenly and in considerable quantity after a stool. Four cases, giving this history, are mentioned. The first hæmorrhage in one instance was said to be half a glassful; in another, three hæmorrhages in one day, aggregated over a litre; and in other cases it is said to have been very abundant.

The occurrence of these large initial hæmorrhages is difficult to explain; it would be expected to occur during a period of ulceration; perhaps it may be due to venous obstruction and engorgement, or to secondary hemorrhoids which often accompany or follow rectal neoplasms.

More frequently the hæmorrhage observed at the commencement is not abundant, but appears as a few drops, accompanying defecation. The fæces are, as it were, enveloped in a little blood.

The blood is generally red, but if taking place slowly may lie for

some time in the rectum and become black or like coffee ; or it may appear in bloody mucus or in streaks.

Abnormal sensations during the early period vary as to their seat, character and intensity. At times they consist of vague abdominal pains, a sort of colic, and at times they appear to be more localised in the region of the disease.

Some patients suffer only during the expulsion of fæces or directly afterwards. Probably the greater number of patients complain of a weight in the region of the sacrum and coccyx, and they have a frequent desire to go to stool, and pass only a little gas and mucus.

Exceptionally, diarrhoea opens the scene. Patients are often misleading on this point. Loose stools following an interval of two, three or four days of complete constipation are not infrequent ; again patients sometimes imagine that they are the subjects of diarrhoea because, when yielding to an almost continuous desire to defecate, they pass some gas, or mucus and slime, a sort of false diarrhoea.

These symptoms occurring in a patient over 45 years of age, especially in a patient losing weight, strength and colour should be very thoroughly investigated. We may fail to discover new symptoms, but we can carefully study old symptoms, their modifications, variations and groupings, and thus become able in an increasingly large number of cases to make a diagnosis early when the disease is removable.

#### **Ambulatory Treatment of Fractures.**

“The ambulant treatment of fracture of the lower extremity.” An editorial article.—*Annals of Surgery*, February, 1895.

PILCHER. “Ambulatory treatment of fracture.”—*Transactions of the American Surgical Association*, Vol. XIV., pp. 239.

With the introduction of the plaster bandage into surgical practice there came to the patient with a broken leg the priceless boon of being able to be up and about on crutches, instead of lying through the weary period of a month or more anchored to some mechanical contrivance. It must be admitted that untoward results do sometimes occur, particularly in the hands of those who do not treat many fractures, and who are not familiar with the use of plaster of Paris. Notwithstanding its drawbacks, the use of plaster has become more general and advances are being made in the direction of securing to the patient even greater liberty

By the ambulatory treatment of fracture of the lower extremity is meant the application of the plaster in such a way, aided in some cases by splints of iron or wood, that the patient can walk

about with the aid, in some instances, of a crutch or stick, but often two legs after the first few days. As a result of his experience in the ambulatory treatment of fracture of the leg, the late Professor Bardeleben stated that he found the following positive advantages, both of a local and general nature. The time required for the consolidation of the fracture is shortened; muscular atrophy and joint-stiffening is prevented; in the aged, the dangers of hypostatic pneumonia are avoided, and in alcoholic subjects the tendency to delirium tremens is lessened.

In 1891, F. Krause published a paper upon the treatment of fractures of the bones of the leg in walking patients. Some two years later Korsch published a paper upon the same subject, including fractures of the thigh and compound fractures. At about the same time Bruno, of Tübingen, published his paper upon the ambulant treatment of fractures of the leg and thigh, his invention consisting of a splint of metallic rods and leather straps, by means of which the whole leg was suspended, the weight of the body being borne largely by the tuber ischii and perineum. In the later part of the year 1893, Dollinger of Buda Pesth, appeared with a description of a movable splint for the ambulant treatment of fractures of the bones of the leg, reporting three cases upon which he had employed his method.

The idea of the method employed by Warbasse was, he states, obtained from Dollinger's paper. He practised it upon six cases, in the practice of Dr. L. S. Pilcher, in the Methodist Episcopal Hospital in Brooklyn. The method, as he practised it, consists, first, in the reduction of the fracture and cleansing of the skin of the leg with soap and water. The foot is fixed at a right angle to the leg, and a flannel bandage, smoothly and evenly applied from the toes to just above the knee. This bandage is made to include beneath the sole of the foot a padding of ten or fifteen layers of cotton wadding, making a pad about three-fourths of an inch thick when it is compressed by the moderate pressure of a flannel bandage. Over this is now applied a plaster bandage from the base of the toes to just above the knee, especial care being taken that the bandage is applied smoothly and somewhat more firmly than is the custom in the ordinary plaster cast. The layers of the bandage should be well rubbed as it is applied, with a view of obtaining the greatest amount of firmness with the smallest amount of material. The sole is strengthened by incorporating in with the circular turns an extra thickness composed of ten or twelve layers of bandages well rubbed in together and extending longitudinally along the sole of the foot. The bandage is applied especially firmly about the enlarged upper end of the tibia, and here it is made

somewhat thicker. As it dries, it may be pressed in so as to conform more closely to the leg just below the heads of the tibia and fibula. The assistant who stands at the foot of the table and supports the leg makes such traction or pressure as is required to keep the fragments in proper position whilst the plaster is being applied. The operation requires about twenty minutes, and by the time the last bandage is applied the cast should be fairly hard.

It is seen that when this cast has become hardened the leg is suspended. When the patient steps upon the sole of the plaster cast, the thickness of the cotton beneath the foot separates the sole of the foot so far from the sole of the cast, that the foot hangs suspended in its plaster shoe. Thus the weight of the body, which would come upon the foot, is supported by the diverging surfaces of the leg above the ankle. The chief of these is the strong head of the tibia.

The immediate application of such a splint prevents subsequent swelling, because the swelling which follows a fracture is largely due to the movements of the ends of the fragments and the sooner perfect immobilisation is effected, the less will be the swelling. Examples of this fact are seen in fractures of the skull and pelvis.

The originator of the idea was Scutin, though his dressing did not permit the patient to walk upon the broken leg.

Husing was the first to really accomplish the practical application of a dressing in which the patient could stand upon the broken leg.

The idea has been extended in its application until now fracture of the thigh and even fracture of the neck of the femur are treated on this principle. The Americans are suggesting the use of Thomas' knee and Thomas' hip splint to give increased stability, and the use of a high shoe on the foot of the sound leg.

The time after the injury when it may be proper to apply the ambulatory dressing will depend upon the nature and extent of the damage to the soft parts and the amount of local reaction following the injury.

In compound fractures it may be applied as soon as time enough has elapsed to show that the primary cares have been successful in warding off infection, that is, within a week or ten days.

The use of this dressing requires considerable familiarity with the use of plaster, and its application outside of hospitals is of doubtful expediency.

*Geo. E. Armstrong.*

## Gynaecology.

### Malpositions of the Uterus.

CROCKETT, M. A. "Etiology and Pathology of Uterine Displacements."—*Buffalo Medical Journal*, April, 1897.

FISHER, J. M. "Practical Observations on the Classification, Etiology and Pathology of Posterior Displacements of the Uterus."—*Medical News*, April 24th, 1897.

SYMONES, H. P. "Notes on One Year's Surgical Work."—*Lancet* April 7th, 1897.

The anterior vaginal wall and the utero-sacral ligaments form an elastic beam across the pelvis upon which the uterus is suspended, and this beam is partially supported by the posterior vaginal wall, the two walls being in apposition. Unless there is excessive strain or force applied from above, this beam is quite able to support the normal uterus, even when unaided by any other structure.

Of all the uterine ligaments, the utero-sacral are the only ones which are constantly taut, these being chiefly instrumental in the uterus normally retaining its position of slight ante-flexion. The broad and round ligaments are, on the other hand, usually relaxed, when the fundus is lying forwards. This fact allows of the free mobility of the uterus and therefore of this latter organ really having several normal positions, according to the position of the patient and the condition of the bladder or rectum. For this reason, any operation which fixes the uterus in one definite position is faulty.

The axis of the superior strait of the pelvis is the physiological area of uterine movement and is consequently of importance in labour. The uterus is displaced, when it takes up a permanent position outside of this physiological area, and the development of symptoms depends upon the power of resistance of the organism. (This is no doubt true, as is evidenced by the fact that an extensive displacement of the uterus may often be found in one patient who suffers no inconvenience from it while in another individual a slight misplacement will cause severe symptoms which entirely disappear upon the cure of the pelvic condition.)

For the normal working of the mechanism of the uterine support

two conditions are requisite, viz., normal tissue and normal forces. It will be seen from this, that two classes of causes give rise to uterine displacements, viz., all conditions impairing the integrity or tonicity of the uterine supports and all abnormalities in the amount and direction of the forces acting on the uterus, both classes of causes acting together in some cases. In regard to treatment, "the best gynæcologist is the one who knows when to leave the pelvic organs alone and turn his attention to the body at large" as in many cases the circulatory, nervous and nutritive organs are chiefly at fault.

Fisher agrees, in the main, with the above as he considers that a uterine retro-displacement caused by a full bladder and which does not become fixed, as physiological, because it returns to the front as the bladder is emptied. On the other hand, a permanent displacement is abnormal but not necessarily pathological. That is to say that, while anterior and posterior displacements of the uterus are abnormalities in themselves anatomically speaking, they frequently fail to constitute disease clinically.

A proper classification of retro-displacements of the uterus becomes at once an index to both diagnosis and treatment. They may be classified as:

(a) *Anatomical*, including retro-positions, retro-versions, retro-flexions, retro-versioflexions with anteversion.

(b) *Etiological*, as congenital, puerile (originating about puberty) and acquired.

(c) *Clinical*, such as pathologic, complicating and indifferent. The pathologic and complicating forms may be benefited by treatment, while the indifferent, being a retro-displacement causing no symptoms, should be left alone.

He says that the majority of these retro-displacements are caused by faulty obstetrics and improper care during the puerperium, and, where this is the case, the uterus should be replaced before the ligaments have ceased to undergo involution.

A new operation for the cure of prolapsed or retro-posed uteri has been devised by Mr. Symonds, who describes it and relates a case as follows:

The patient was forty-seven years of age and had suffered from prolapsus uteri for three years, pessaries being of no service to her whatever. The abdomen was opened in the median line as for an ovariectomy. Both ovaries, together with one inch of each broad ligament, were removed. A transverse incision was made through each rectus and the stumps of the broad ligaments drawn through the incisions and sutured there, after which the abdomen was closed. The

patient made an excellent recovery and has had no return of the disease.

(This operation presents no advantage over ventro-fixation. In both, the abdomen requires to be opened and in Symonds' operation the ovaries require to be removed, which adds to the risk of the operation and, of course absolutely contra-indicates it in a woman who has not yet reached the climacteric, unless the ovaries are diseased. The chief argument urged against ventro-fixation is that it interferes with pregnancy, but this cannot be advanced in this case, as Symonds removed both ovaries so that pregnancy would not follow his operation. It would not only be interfered with, it would be absolutely prohibited. Even when pregnancy does follow ventro-fixation, no trouble will follow if the operator has not passed the sutures too far down on the posterior surface of the uterus and so caused an exaggerated anteversion. If the sutures are passed just posterior to the tip of the fundus and a sufficient distance up from the pubic bone to lift the organ off the bladder the results will probably be quite satisfactory.

#### **Psychological Effect of Pelvic Disease in the Female.**

MITCHELL, S. WEIR. "Relations of Nervous Disorders in Women to Pelvic Disease."—*University Med. Mag.*, March, 1897.

MILLS, C. K. "Relations of Nervous Disorders in Women to Pelvic Disease."—*University Med. Mag.*, March, 1897.

SINKLER, WHARTON. "Relations of Nervous Disorders in Women to Pelvic Disease."—*University Med. Mag.*, March, 1897.

HOBBS A. T. "Résumé of the Gynæcological Work done at the London Asylum."—*American Journal of Obstetrics*, No. 3, 1897.

In epilepsy, the attacks are more likely to occur at or near the menstrual period than between them and may only occur at that time, so that some authorities look upon the act of menstruation as the cause and so endeavour to remove the source of irritation by bringing on a premature menopause through removal of the ovaries, but Dr. Mitchell does not agree with this teaching. He says that many ovaries both abnormal and normal have been removed for the cure of this condition, but he never saw a permanent cure result from this operation and so never sanctions it. Relief may possibly follow at first, but it is only temporary.

Insanity, in which the menstrual period is the originative and sometimes sole determinative cause of the mental condition, some-

times occurs in the female. Some remove the ovaries from these women in order to produce a premature climacteric, in hopes that this will stop the nerve irritation, but this is not good treatment, as it is well known that women at the climacteric are especially liable to mental derangement. However, some women are peculiarly liable to a mild form of melancholia at the menstrual period and it may even assume a suicidal form. It may possibly be of service to operate upon these but the cases should be very carefully chosen.

Many aggravated cases of hysteria are accompanied by disease of the pelvic viscera in the female, this fact suggesting the removal of the diseased structures, but the large majority of these patients are not cured by the operation, as, if the pain leaves the pelvis, it is almost certain to appear in some other region.

He concluded by saying that "epilepsy truly depending upon normal uterine function or due to abnormal states of the sexual apparatus is rarely (I am tempted to say never) seen. In all my life I have met with but four reflex epileptics; none were from uterine, or ovarian, or tubal disease." He also considers that insanity may be aggravated, but is very rarely caused by the menstrual epoch alone.

In the discussion which followed the above paper, Dr. C. K. Mills said that pelvic disease or disturbance was sometimes the result of mental or nervous disorders, as where amenorrhœa accompanied melancholia or other insanity. Real epilepsy, hysteria or melancholia is never caused by pelvic disease; they are essentially affections of the nervous system but pelvic disease may serve as the exciting cause in those who are predisposed to them.

In hysterical patients, where local pelvic disease exists, operation or treatment may relieve the condition.

Dr. Wharton Sinkler puts in a good word for the much abused gynæcologist. He says that when a woman is affected with some nervous disorder, her friends at once think that she must have some pelvic disease and forthwith conduct her to a gynæcologist, but these specialists now usually refuse to treat these cases.

Krämer collected the reports of 300 cases of pelvic operations for neuroses and psychoses, with the results that benefit followed in 200, while the remainder were either no better or else had their previous condition aggravated.

Hobbs, of London, Ont., has written a most interesting paper upon gynæcological operations upon the insane. He says that disturbances of the functional integrity of the nerve centres are often caused by disease in distant organs, either reflexly or sympathetically, and that derangements of the highly complex cycle of organs connected with

reproduction in the female, exercise more or less influence upon her mental stability, as is evidenced by the neurotic changes which appear at puberty, pregnancy and the climacteric. Therefore a woman's sexual apparatus should be in a normal condition in order to insure her bodily and mental health. Careful inquiry into absence or presence of symptoms of pelvic disease should be made in every case of insanity among women, and, if such are complained of, she should be examined and treated if necessary. His operations were undertaken with the view of securing physical health and future comfort of the patients, and not with the object of curing the mental condition, yet in many cases they were followed by mental improvement and even recovery. Curettage and divulsion alone were done upon nine cases, followed by physical gain in all and mental recovery in six, but none in the other three. The cervix was either amputated or repaired in twenty-three patients, with nine recoveries and seven women improved. Perineorrhaphy, as the main operation, was performed on three patients, but no recoveries followed. Eight patients had complete hysterectomy performed on them for fibroid, epithelioma, etc. Two recovered mentally, one improved, two remained in *statu quo* and three died. Alexander's operation and ventro-fixation were employed nine times. There were two mental recoveries, three improved very much and the rest remained as before. In two cases, ventro-fixation, plus removal of diseased adnexa, was followed by one mental recovery. The removal of diseased adnexa was the only operation performed upon six patients, with the result that three recovered their reason, two were greatly improved and one very old patient died from pneumonia two weeks after the removal of a large cyst. Out of the total of sixty-one patients operated on, there were twenty-three who recovered their mental equilibrium, fourteen were greatly benefited, in nineteen there was no improvement, and five patients died.

#### Closure of the Abdominal Wound.

NOBLE, C. P. "A new method of suturing the abdominal wall in celiotomy."—*Am. Jour. of Obstetrics*, April, 1897.

The steps of the operation practised by Dr. Noble are : 1st. Closure of the peritoneum by a running suture of catgut ; 2nd. Uniting the edges of the rectus muscles by a second running suture of catgut ; 3rd. Suturing the aponeurosis in such a manner that the aponeurosis of one side is brought over, superimposed upon and sutured to that of the opposite side with silk-worm gut ; 4th. Closing the subcutaneous layer of fat with a running catgut suture ; 5th. Closing the skin with an intra-cuticular suture of catgut.

He claimed that simply bringing together of the edges of the aponeurosis is not sufficient to form a good strong union. In the "mattress" suture, the two lower surfaces are brought together and sutured through, thus narrowing the aponeurosis by nearly half an inch on each side, and so increasing its tension. The chief point about Noble's operation is that it gives a strong line of union with but slight narrowing of the aponeurosis. Before suturing the latter, it is well to separate it from the fat above and muscle below.

### Malignant Endometritis.

VAN COTT, J. M. "Malignant chronic endometritis."—*Inter. Med. Magazine*, April, 1897.

The writer asks and answers three questions: 1st. Can a diagnosis of this condition be made by the microscope alone? 2nd. If so, can it be made before widespread adenomatous change takes place? 3rd. If the microscope alone is incompetent, is there any combination of methods by means of which reliable results can be looked for?

He concludes that the microscope alone will not enable one to make an accurate diagnosis of this form of malignancy in the uterus. Much may be determined regarding hyperplasia, rapidity of cell proliferation and the presence or absence of adenoma, but it is utterly impossible to tell simply from the tissue removed by the curette how deeply the process has advanced into the substance of the uterus; at least, one can only have a strong suspicion that a process, which will prove fatal long before the characters are unmistakable, is present. If, in addition to the microscopic appearance, the patient gives a history of frequent metrorrhagia, unrelieved by repeated curetting, with rather a watery discharge between, you can safely make a diagnosis of malignant chronic endometritis.

As regards operation, it is better to err on the safe side and remove the uterus, if one is in doubt, as it is a greater error to leave a uterus *in situ* when it is the seat of malignant endometritis, than to remove one of which you are suspicious, yet which proves to contain nothing of a malignant character.

The condition must be comparatively rare, as the writer had only come across six cases in six years work in the pathological departments of three Philadelphia hospitals. He gives the following report of a case, but it is too incomplete to be of much value. The patient's age was about fifty. She was short, rather anæmic, and very stout with flabby tissue. There was a history of profuse metrorrhagia during the previous five years, increasing in amount and duration and with shortened intervals. Repeated curettage was followed by

recurrence of the metrorrhagia and a profuse muco-serous discharge ex-utero. On microscopically examining the tissue removed by the curette after two operations, an apparently simple hyperplasia of the glandular tissue was seen, but malignant hyperplastic endometritis was diagnosed and hysterectomy performed. On removal of the uterus, it was seen to be enlarged and globular with a relatively short cervix. The peritoneal coat was smooth, glistening and hyperæmic, while the organ itself felt soft and elastic. The cut section is rough and looks hyperæmic, especially near the endometrium, which is engorged with blood and hæmorrhagic in spots. The endometrium is soft, velvety and about  $\frac{1}{4}$  of an inch thick. Sections examined by the microscope show neither adenoma, carcinoma or sarcoma, but a glandular hyperplasia with a tendency of the glands to grow out into the intermuscular spaces of the metrium. The matrix of the endometrium can be seen deep in the muscular wall of the uterus.

*F. A. J. Lockhart.*

## Pathology.

UNDER THE CHARGE OF J. G. ADAMI.

### The Changes Produced in the Abdominal Viscera of the Adult Woman as a Result of Corset-wearing and Pendulous Belly.

HERTZ. An abstract of Paul Hertz's "*Abnormitäten in der Lage und Form der Bauchorgane bei dem erwachsenen Weibe sine Folge des Schnürens und Hängebauches.*" Berlin, 1894. Verlag von S. Karger.

Hertz has made a very careful study of the cadavera of 50 women and the results of his examination are of great interest to all who are interested in abdominal work. They show that very great variations are produced, the mechanism of the alterations, being difficult to understand in certain cases. Several points, indeed, remain quite obscure, and it seems to me that our knowledge will not be complete or satisfactory until the influence of lacing and of pendulous belly be studied under different conditions, *e.g.*, in the growing period, in the full-grown state, in relation to pregnancy and in relation to occupation. Hertz describes the changes in the different viscera as follows.

#### THE LIVER.

There are two chief types of alteration produced in this organ as the result of the wearing of corsets.

*First Type*—(*Die lange herübergeklappte Leber mit Schnürlappen, einfach oder doppelt, Sustentaculum-bildung und Nirennest.*)

In this form one or both lobes are thinned and elongated downward into the abdomen for a distance of 10, 15 or more cm. below the transverse curvature, as a kind of flap which covers the intestines or is partly covered by them. On the anterior surface is a transverse or oblique depression—the well-known corset furrow, slight or well-marked, over which the peritoneum may be thickened and fibrous as a result of perihepatitis. It is usually placed high, running from about the 8th left costal cartilage to the 10th or 11th on the right side. The upper surface of the liver is greatly diminished in area, so that the organ might be described as possessing a large anterior, a large posterior, a narrow upper surface and a thin lower margin. The outline, viewed from the front is that of a right-angled triangle, the hypotenuse being the left lower border. Sometimes it presents four corners which may be more or less like right angles; the part developed from

the left lobe is generally smaller than that formed by the right. The relations of the posterior surface are complicated and differ in the right and left halves of the abdomen. That part lying to the right of the vena cava has the greatest area. It lies between the spine and the ribs immediately in front of the right kidney, which may be found in its proper place. The corset-furrow before referred to, lies anterior to this kidney, the liver substance behind the furrow being very thin, and, owing to the pressure exerted by the corset, is very close to the kidney. Above and below the kidney the liver-substance is thicker, being less compressed in these parts. Above, it forms a thick rounded mass, which lies between the ribs, the diaphragm, the vena cava and the spine. Beneath, it often forms a small mass which fits under the lower end of the kidney, apparently playing some part in supporting it. This is referred to by Hertz as the sustentaculum-formation of the right lobe of the liver. It is united to the upper part of the liver by the above-described thin portion, but frequently it is distinguished from it by a deep sulcus on the right border opposite the corset-furrow on the anterior surface. This is caused by an atrophy of the liver-substance compressed between the outer border of the kidney and the part of the lobe in front of it. This enlarged inferior mass—constriction-lobe has always been supposed, since Frerichs' time, to be due to congestion. But Hertz points out that this portion has the same structure as the rest of the liver, and that in certain other cases (to be afterwards considered) where the right kidney is displaced downwards so as to project forward under the constriction-lobe, the latter is found as a thin sharp corner, showing no thickening whatever.

As the constriction-lobe dips under the liver it touches the hepatic flexure of the colon. The latter is, as a rule, displaced downwards, and the sustentaculum rests between it and the lower end of the kidney in the form of a wedge. In this way, it is evident, a nest is built for the kidney by the liver substance, the former organ remaining in its proper place. The central portion of the posterior surface of the liver is in relation to the right half of the vertebral column; this portion, corresponding to the quadrate lobe, also rests against the head of the pancreas. The left lobe of the liver is very variable, both in size and shape in these cases. As a rule it is elongated downwards in the form of a triangle or of a long rectangle. The corset-furrow with the accompanying perihepatitis is found on the anterior surface, extending higher than on the right lobe; where it reaches the left margin of the liver, there is a triangular depression or a sulcus due to atrophy. The posterior relations are variable.

The tuber omentale may be somewhat flattened against the pancreas, the lower part of the lobe thinned, and resting over the lesser curve of the stomach. Or, if the stomach be displaced downwards, the lowermost part of the left lobe reaches a point between the lesser curvature and the lowermost border of the pancreas forming a mass something like the constriction-lobe described on the lower part of the right lobe, marked off from the upper portion of the lobe by a sulcus and an atrophied part of the liver-substance, due to the pressure of the organ by the corset against the upper part of the pancreas. Such a liver when removed from the body has often the appearance, in front, of a St. Andrew's cross.

When the liver is markedly elongated downwards and the left lobe is of considerable size, the interlobular fissure may be very deep, as much as 5 or 6 c.m., often. This has been stated as resulting from hypertrophy of the lower portions of the lobes. This is wrong, however. The deepening of the fissure is due to the resistance of the obliterated umbilical vein as the liver lobes are pressed downwards.

*Second Type.*—(*Die lange herabgeklappte Leber mit Emporrücken der unteren Fläche, aber mit unvollständigem Nirennest ohne Sustentaculum.*)

This form is very different from the former. It is thicker in its upper portion, than in the lower. It lies entirely or almost entirely above the transverse curvature of the abdomen and, as a rule, is broader above than below. It is curved across the spinal column. According to the width of the organ, it forms a large or small portion of a ring, which in the most marked cases extends around the stomach and spleen even as far as the left side of the spine. A sagittal section through the liver appears trapezoidal, more marked in the right than in the left lobe. The upper surface is very broad in both lobes. The anterior surface is curved in correspondence with the concavity of the anterior abdominal wall, and forms a segment of a cone, owing to the lower portion of the liver being smaller than the upper. Its lower margin lies more transverse than in normal cases. A slight constriction-furrow with perihepatitis runs across it, as a rule, just above the transverse curvature of the abdomen. Sometimes it lies close to the lower margin, a well-marked atrophied portion being visible, most pronounced adjoining the gall-bladder. The left border of the liver is sharp, the right round.

The posterior surface is described in three different divisions. The upper part of the right lobe on the right side of the vena cava lies between diaphragm, ribs and spinal column. The lower part is different from the condition described in the first type of liver. The right

kidney is displaced downwards, its inferior extremity being tilted forward forming an angle with the long axis of the body, which may be as great as  $45^{\circ}$ . That part of the liver which normally is in relation to the anterior surface of this kidney projects backwards above the kidney into the space below the ribs. Below this it is moulded over the kidney and colon. The deepest part of the compression-furrow corresponds to the upper part of the surface in contact with the kidney. The central part of the posterior surface, the lobus spigelii and lobus quadratus are not flattened as in the first type of liver. The fossa for the vena cava is deep and the quadrate lobe is directed downwards and backwards. The lobus spigelii stands vertically. Sometimes the quadrate lobe comes into relation with the transverse colon. Often the latter is sunk considerably below the liver, the space between being filled up by the small intestines, though commonly the first part of the duodenum and the head of the pancreas are in relation to the quadrate lobe. The left lobe covers, as a rule, the body of the pancreas, which therefore is not visible between the stomach and lower margin of the liver. It covers a part of the stomach in the left hypochondrium and extends around so as to cover the fundus and the spleen. It meets the ribs at about the 9th costal cartilage and at this point the margin is usually atrophied. This type is common as a result of corset-wearing and is found in several variations.

A frequent variation is that in which a short more or less flattened triangular constriction lobe is found in connection with the right part of the liver, one or two finger-breadths under the ribs about the 9th or 10th costal cartilage. The left lobe shows variations also, such as may be found in the first type of liver described. One condition, however, is never found, viz., a downward elongated left lobe with a constriction-lobe. The left lobe is entirely above the transverse curvature. Sometimes it is extremely small, scarcely covering any of the stomach.

*Mixed Types.*—Intermediate between these two types is a form in which features of both are combined, viz., the downward extending lobe, along with changes in the posterior surface of the right lobe similar to those described in the second type. Various forms are found in which one or other type predominates. When the right kidney is displaced down so far as that its lower end presses forward the lower part of the liver, another variety is produced. Here though the kidney is in a liver-nest, the latter is incomplete, there being no sustentaculum. The forward pressure of the lower portion of the liver may be very marked in some cases. Generally the constriction-lobe

of the downward elongated portion of this liver is turned somewhat towards the right. This is sometimes due to a movement of the whole organ to the right, but it may also be associated with a marked atrophy of the constriction-lobe owing to pressure against an enlarged gall-bladder. If the left lobe extends downwards as far or almost as far as the right lobe, this atrophy does not take place. When it is short, its lower margin lies directly above the constriction furrow, the quadrate lobe and the right border of the downward extended lobe being consequently liable to the greatest pressure. If in this state the gall-bladder is enlarged, the liver-substance anterior to it is compressed and atrophied. The gall-bladder may then in some cases, form a projection by itself and it may come into relation with the anterior surface of the right kidney.

It has been shown by Symington that normally the liver may be rotated to the right by a dilated stomach around an axis corresponding to the line of the vena cava. Hertz shows that the same thing can be brought about by dilatation of the left part of the colon. The amount of rotation may be determined by the relation of the umbilical fissure to the abdominal wall. Normally it lies in the middle line. Rotation may be prevented by adhesion of the liver to surrounding structures but it may be affected by alterations in the organ due to tight lacing. Thus in the cases in which the left lobe is broad and extends around the fundus of the stomach and the spleen, dilatation of the stomach or colon will not bring about a rotation, no matter what the condition of the right lobe is.

*Relation to Pendulous Belly.*—The changes induced by pendulous belly must be considered for they are often found in combination with those due to tight lacing. The latter is an important factor often in the production of the former.

The chief causes of lax belly are many or quickly recurring pregnancies in women who are hard-worked and are not able to take care of themselves after child-birth. Owing to the weakness in the abdominal walls, the viscera, especially the intestines, tend to sink downwards. The liver does not sink as a whole but is altered as follows, viz., its anterior surface comes to lie at a lower level and its inferior surface is directed more towards the back than normal. It also becomes somewhat flattened from before backward, corresponding to the flattening noticed externally in the upper part of the abdomen and lower part of thorax. As regards the influence of the condition on the liver found in connection with tight-lacing, it is evident that the tendency will be towards a downward extension and elongation. But where the liver is of the first type described, the features are

already so well marked that they can scarcely become intensified, while in the second type of short liver without constriction-lobes, extension downwards is prevented by that part of the right lobe which projects backwards above the kidney. The intermediate forms, however, are affected by the influence of the pendulous belly, in the direction indicated, to a considerable extent.

Another relationship must also be noticed. In pendulous belly it is well-known that the intestines (and the stomach slightly) become enlarged, mainly owing to distention with air. In many cases the bowels sink downwards, but in some instances they press forward and upward, especially the transverse colon. As a result of this the liver is pressed upwards or backwards. In the case of the downwards-elongated distorted liver or in the intermediate forms with this characteristic, the distended colon lying under the constriction-lobe pushes it forward and upwards away from the kidney. This is more marked if the colon and liver be adherent. But when the gut collapses the raised portion sinks again. It thus appears that the lobe is more or less constantly altering its position. The thin portion of liver substance connecting the constriction-lobe with the rest of the organ tends to become thinner by this constant movement, forming a kind of hinge.

More rarely the transverse colon and the small intestines may lie in front of the liver, even in the case of the downward-elongated type. This condition Hertz has found, especially when the liver is soft and flabby and the vault of the abdomen is roomy. This is especially apt to occur in front of the left lobe.

For a good many years the term "Wandering or Floating Liver" has been employed in literature. It was first used in 1866, by Cantani, who believed that the whole organ had a considerable range of free movement due to the influence of pregnancy and corset-wearing. Hertz, however, denies the possibility of this, as does Landau. They hold that relaxation and stretching of the so-called coronary ligament is not possible. It has been stated by Meissner and others that sometimes this ligament is congenitally in the form of a mesentery. Hertz says that this is very doubtful, though he does not deny its possibility. He never once saw it, however, in 1000 *post-mortem* examinations. Hertz believes that the cases described as wandering liver are merely those described by him in which the organ is elongated downwards with constriction-lobes. The part below the furrow has been oftentimes mistaken for the whole liver, especially when it is very mobile in pendulous or lax belly. Landau has employed the term "Rotating Liver" to these cases, because the part below the furrow may be easily turned in the direction of the ribs.

## GALL-BLADDER.

It is evident that the gall-bladder varies in position according to the various distortions found in the liver. It is important to note that dilatation of the bladder is very frequent. Hertz found it so in 24 out of 41 cases. This does not imply that escape of the bile is prevented. It is only retarded and may be expressed with the hand, though usually not without altering the position of the right lobe of the liver. The bile is often thick and slimy. Gall-stones are very infrequent. Jaundice is rarely found. When the liver is of the second type described, *i.e.*, not elongated, and the gall-bladder is not enlarged, it is not much dislocated. Its topography is, however, affected by changes in the relation of neighbouring organs. Thus the right kidney pressing forward the under surface of the liver comes, as a rule, into contact with the right part of the under surface of the gall-bladder. Also when the stomach sinks down, dragging with it the first part of the duodenum, whereby the upper part of the head of the pancreas is exposed, the neck of the gall-bladder comes into relation with this structure.

When the bladder is elongated it may project 4 or 5 cm. below the liver margin. This portion may be found in various positions. If thin and gut-like it may curve over the liver-edge. As a rule, however, it extends downwards in the neighbourhood of the second part of the duodenum and in front of the lower end of the displaced right kidney. The transverse colon is usually displaced downwards, curving below the fundus of the gall-bladder. Behind the bladder lies the meso-colon. If the pyloric end of the stomach is displaced downwards along with the first part of the duodenum, the latter lies on the inner side of the bladder superficial to the second part of the duodenum. It appears then that the elongated down-sinking gall-bladder tends to press the transverse colon downwards, the pancreas and duodenum towards the left and the right kidney backwards, in the case of the second type of liver.

In the case of the first described type of liver where the lobes are extended downwards, the gall-bladder is also elongated downwards. It causes a depression in the edge of the constriction-lobe, as a result of which it becomes somewhat exposed from the front.

The cause of dilatation of the gall-bladder in cases of tight-lacing is a bending of the cystic duct owing to the forcing downwards of the bladder.

## THE STOMACH.

The common feature in all displacements of the stomach as a result of tight-lacing and pendulous belly is a sinking downwards of the

viscus in relation to an axis which passes through the cardiac end and through the superior flexure of the duodenum. In normal conditions, rotation of the liver affects the pylorus and first part of the duodenum. In abnormal conditions certain modifications are introduced. The left lobe has an important influence on the stomach.

The most frequent alteration in the position of the stomach is its dislocation downwards along with a movement to the left, whereby a sharp bend is formed in the viscus. The upper limb of the angle is directed from the cardiac end downwards and outwards, often reaching the side wall of the abdomen below the spleen; the lower limb extends from the left hypochondrium transversely across the epigastrium, the pylorus, as a rule, lying in the middle line or to the left, its orifice being directed to the right. This condition is found almost always along with a short left lobe of the liver which does not extend below the transverse curvature. The stomach crosses the ribs further out than normal, at the ninth or between the ninth and tenth costal cartilages. Even when the liver is rotated to the right, the pylorus may be to the left of the middle line. It lies in most cases slightly lower than normal, and corresponds with the junction of the lower and middle third of a line joining the umbilicus and ensiform cartilage. Where the stomach crosses the ribs it is marked by a circular constriction.

The first part of the duodenum, as a rule, lies transversely, being a direct continuation of the pylorus. This is brought about by the deviation of the stomach to the left. The neighbouring structures are also affected, *e.g.*, spleen, left kidney, suprarenal body and pancreas; they tend to move outwards also to the left. As the left lobe of the liver comes into relation with the head of the pancreas it compresses the latter. The border of the lobe is in relation to the lesser curvature of the stomach only in the epigastrium. If the lobe be very short it may not reach the pancreas. Sometimes a variety of this form of stomach dislocation is found in which the bend in the stomach forms a right angle.

In those conditions of corset-liver, in which this organ surrounds the stomach and spleen, the distension of the stomach is interfered with; this is more marked if the spleen be at all enlarged. In such cases, the stomach enlarges below the border of the liver. If there is a sharp bend in the viscus, the pyloric end undergoes this dilatation and this results in a dragging downwards of the hypochondriac portion of the stomach. If the pyloric end remains at or near its normal position the shape of the stomach is made to resemble a fish hook, that part not covered by the ribs sinking down into the

mesogastrium. If the pylorus be dragged down as well, no part of the stomach may lie in the epigastrium.

In this form of distortion the pyloric opening is directed upwards and the first part of the duodenum runs upwards and to the right. Sometimes the whole body of the pancreas may be exposed by this downward displacement of the stomach, the head of the organ, only, remaining covered by the pyloric end of the stomach.

This marked condition of the stomach may also be caused by tight-lacing alone, if there be enlargement of the left lobe of the liver or spleen. It is the chief cause of stomach dilatation where there is no pyloric obstruction. The same thing may be caused in men by the wearing of tight belts.

In several cases the first part of the duodenum may also be dilated, there being a sharp bend in the superior flexure, causing an obstruction to the passage of the contents of the stomach. This condition results from the dragging downward of the first part of the duodenum.

Another form of displacement occurs in the cases where the liver is of the first type described, in which the left lobe extends down as a long flap with a constriction-lobe attached. The stomach is forced from under it, the lesser curvature lying along the border of the left lobe. The pyloric end with part of the duodenum is displaced downwards in a corresponding fashion. The curve formed by the stomach depends on the size of the left lobe. The hepatico-duodenal ligament becomes stretched, mainly owing to the pressure of the liver on the head of the pancreas which is forced downwards and to the left.

This form may be combined with the last described in which a bend occurs in the left portion of the stomach; dilation of the right portion may take place below the liver-margin.

The influence of lax or pendulous belly must now be noted. In some cases the distension of the intestines may press the stomach upwards. But the stomach itself often sinks as a result of this condition and may become considerably distended with air.

Certain authors, *e. g.*, Engel, have described another deformity in the stomach caused by tight-lacing, *viz.*, a kind of transverse constriction furrow between the epigastric and hypochondriac portions; it has been compared to the furrow on the anterior surface of the liver. Hertz thinks this may be merely a cadaveric phenomenon, similar to that often found in the epigastric part of the stomach, marked by greater or less contraction in the wall. It is easily made to disappear and must be distinguished from the cicatrisation due to an ulcer or from the condition found in the hour-glass condition of stomach.

## SPLEEN.

This organ is rarely displaced though slight variations in its position are often found. One is specially alluded to, viz., that in which a rotation occurs so that the renal surface is turned away from the left kidney, being directed along with the gastric surface towards the front. This change is brought about either through the pressure of the stomach or of the left lobe of the liver.

## PANCREAS.

This gland normally has scarcely any range of movement; it varies in shape according to the firmness of its attachments as well as to the general nutrition of the body. Slight movements may be made in all directions. The most resistance is found when it is attempted to move the gland up or down, due to the vascular connections with the aorta and vena porta. There is less resistance when the head is pushed to the left. Often that part of the gland on the left of the aorta is quite loosely attached to surrounding structures. This is especially the case when there is a roomy abdomen, lax abdominal wall, and loose retro-peritoneal connective tissue. In such a condition it is easy to understand how the gland may undergo displacement.

We may find that the body of the gland is dislocated downwards. Normally the gland runs transversely across the back wall of the abdomen in the root of the transverse mesocolon. The sinking of the left lobe of the liver, stomach and transverse colon may therefore alter the position of the body. Generally it is forced somewhat downwards, a rotation occurring whereby the upper surface is brought to the front, the anterior turned down, and the lower directed towards the back. If the pressure which is caused by the sinking down of the parts is very marked the gland becomes considerably flattened out resembling a dog's tongue. The head of the gland may not be altered in position and a fold may therefore be formed between it and the body.

Another displacement of the gland consists in the movement of the head towards the left. Normally the head of the pancreas crosses the spine and vena cava and may lie 2 or 3 c.m. to the right of the latter. It may be pushed to the left so that the vena cava is uncovered and the right border of the head be made to lie to the left of the middle line. This distortion may be produced by the pressure of a right lobe of the liver which is greatly elongated downwards, by that resulting from an enlarged gall-bladder, from both of these factors, or from the pressure of distended bowel on the right of the pancreas.

Sometimes as a result of this pressure an angle may be formed on the body of the pancreas.

Sometimes the whole gland may be displaced, being swung, as it were, around the point of attachment to the aorta; the head moves down and the body upwards. The gland may thus form with the spinal column an angle as great as  $45^{\circ}$ .

The uncovering of the pancreas as a result of the sinking of the stomach in certain cases has been already pointed out. It may also in this condition remain behind the transverse portion of the lesser curvature.

As a whole the pancreas is, in most cases, moved downwards only to a slight extent or not at all. It may, however, be displaced downwards as much as the thickness of a vertebra. The relation of the head to the second part of the duodenum is very rarely altered. Adhesions between the pancreas and the posterior surface of the stomach are common.

#### THE DUODENUM.

The duodenum is characterised by its considerably fixed position. It is, however, capable of being moved somewhat. Certain displacements in its first part have been alluded to in connection with the stomach.

When the stomach is forced to the left the first part of the duodenum is made to lie horizontally, continuous with the pylorus. When the latter lies to the left of the spinal column, the duodenum crosses the middle line and lies more superficially than normal, under the liver or below its lower border. Under these conditions the superior flexure of the duodenum forms a right angle. The whole duodenum is also slightly displaced downwards, seldom more than half the thickness of a vertebra. In the fish-hook condition of stomach, the first part of the duodenum is dragged downward and lies vertically, the superior flexure forming a sharp angle, somewhat obstructing the lumen of the gut. Behind it is the head of the pancreas; external to it the elongated gall-bladder; in front, the abdominal wall, and, above, the quadrate lobe of the liver. It lies alongside the second part of the duodenum, which is somewhat posterior and external to it, the hepatico-duodenal ligament being always stretched. The upper end of the head of the pancreas lies just above the superior flexure.

The second part of the duodenum, owing to its close union with the head of the pancreas, is less liable to displacement than the first part. It follows the movements of the head of the gland as already described. When the transverse colon is abnormally low the duodenum is exposed anteriorly, being covered only by the meso-colon.

The inferior flexure of the duodenum may be made to descend very

low, sometimes close to the promontory, when the head of the pancreas descends. The third part of the duodenum may be considerably covered by the stomach when the latter is displaced downwards. If the displacement be very marked the third part may lie partly above the lesser curvature.

Adhesions are very frequent between the gall-bladder and duodenum, especially when the former is enlarged. These adhesions may also pass to the liver and colon. Sometimes the head of the pancreas may be completely embedded in adhesions.

#### THE KIDNEYS.

These organs may become displaced, often becoming movable as well. The immobility of the displaced kidney may be due to fixation by other viscera, or by inflammatory changes in the peri-nephritic tissue.

*The Right Kidney*—The influence of the liver distorted by tight-lacing is the main factor in displacing the right kidney. But the effect on the kidney varies according to the type of alteration produced in the liver. In the case of the first type of distorted liver, viz., that in which there is downward elongation of the lobes, Hertz has shown that the anterior surface of the kidney is covered by a portion of the lower part of the right lobe which becomes moulded under its lower end to form a sustentaculum. The kidney lies at its normal elevation or is only slightly pushed downward. It is, however, somewhat pushed backwards, the upper end however, not being separated from the suprarenal body. The corset-furrow on the liver is opposite the middle of the kidney. Often a deep fissure is formed at the right extremity of the furrow into which the kidney projects. Owing to the pushing backwards of the organ the hilus is slightly more distant than normal from the duodenum and the hepatic flexure of the colon is somewhat forced away from the lower part of the kidney by the sustentaculum.

The kidney is not, however, always found in this position with this deformity of liver. It may slip out of its bed in the liver and become movable. This may be brought about by pendulous or lax belly along with a rotation of the liver to the right, or through the forcing upwards of the latter by coils of intestines.

In that condition of distorted liver in which the backward development occurs in the right hypochondrium, and in which there is also downward elongation, the kidney is forced downward below the ribs. It may escape from its liver-bed when a sustentaculum exists, and become movable. Where there is no sustentaculum, the kidney is markedly displaced downwards below the constriction-lobe, which

rests on its anterior surface and is generally very movable, the mobility being increased by the action of the corset-pressure. The range of movement may be considerable. It may pass behind the root of the transverse mesocolon and press forward with its lower end that part of the peritoneum which lies between the ascending colon, mesocolon and root of the mesentery. Sometimes the kidney is forced downwards in the direction of the ilio-lumbar ligament or iliac crest, or it may slide along the psoas muscle under the peritoneum. In no case has Hertz found a mesonephron.

It is not uncommon to find the great mass of the kidney below the iliac crest or ilio-lumbar ligament, its upper end lying no higher than the space between the transverse processes of the 2nd and 3rd lumbar vertebræ, occasionally in that between the 1st and 2nd. The upper part is touched by the liver.

It is often stated that the kidney can be replaced in such cases. Hertz states that it has only been placed in the space formed behind the distorted liver, not raised to its normal level.

As regards the change in the kidney in connection with Hertz's second type of distorted liver, viz., the short form with thickened upper part and tilted forward lower end, some reference has already been made. The kidney is forced down by the pressure of the thickened liver extending backwards and outwards above it, and its lower end is pushed in by the pressure in the loin of the tightly-laced corset. The corset furrow on the liver corresponds to the upper end of the kidney. When the kidney is much pressed down it reaches the ilio-lumbar ligament over which it may slide. There is also a tendency for the long axis to change so that it forms an angle with the long axis of the body of  $45^{\circ}$  or more, as its lower end moves downward, forward and upwards. In a marked case Hertz found the upper end of the organ at the transverse process of the 5th lumbar vertebra and the lower end at the middle of the same vertebra. Usually, however, the upper end is opposite the 2nd or 3rd transverse process.

As the kidney becomes displaced in this way, the lower end meets with resistance from the colon or other viscera under pressure of the abdominal wall and corset and the organ may become somewhat bent.

Part of its anterior surface is in relation with the under surface of the liver. Posteriorly it rests against the psoas and side of the spine. The peritoneum is pressed forward by the kidney, the root of the transverse mesocolon crossing its lower end.

The kidney may become very movable, also, with this type of liver, quite apart from the influence of lax or pendulous belly. It may move downward, inward or forward. It may glide under the meso-

colon and second part of the duodenum and may have all the range described in connection with the first type of liver.

Clinically the kidney is more easily recognised with the second than with the first type of liver. In the latter case it often happens that the low-hanging constriction-lobe is mistaken for the kidney.

*The Left Kidney.*—This organ is much less often displaced than the right one. In the cases examined by Hertz, it was movable in ten cases, displaced and non-movable in one. In no case was the upper end lower than the 12th rib, nor the lower end below the 4th lumbar vertebra. The organ lay almost always above the line of constriction. Hertz thinks that very tight-lacing tends to press it upwards. The transverse curvature was opposite the third lumbar vertebra, and the lower end of the kidney in most cases lay above this or on the same level, save where the organ was much elongated.

Hertz believes that the left kidney tends to be pressed down only when the left lobe of the liver is enlarged and the body of the pancreas displaced and forced against the upper part of the kidney. Lax or pendulous belly also plays a part in bringing about mobility of the left kidney just as in the case of the right organ, though it is secondary to the lacing. The left kidney may generally be replaced, whereas, as has been pointed out, the right one rarely can be.

#### THE URETERS.

In examining the ureters, Hertz never found hydronephrosis. In marked displacement of the kidney, the pelvis of the organ was irregular and indented, but the ureter was never found bent to a sharp angle.

#### THE COLON.

The down sinking of the transverse colon can be brought about by various conditions, among which tight-lacing is one. This portion of the bowel being behind the part of the abdomen most tightly constricted is easily forced down. The gastro-colic ligament is also elongated. These conditions may be found in women where there is no lax or pendulous belly.

When the latter condition exists as well, secondary displacements occur in the bowel. Thus it may be found in front of the liver, in the epigastrium or in front of the stomach. Or it may be low in the abdomen, the small intestines lying partly above and partly below it. Its right part is frequently prevented from sinking by adhesions to the gall-bladder. The hepatic flexure is forced downwards by the downward-elongated lobe of the liver, the sustentaculum separating the gut from the lower end of the kidney in most cases. The root of

the mesocolon is also forced down. In this way the ascending colon is made very short and may be quite obliterated. The flexure is more or less covered by the liver-lobe. When there is no sustentaculum and the right kidney is forced down, the hepatic flexure may be displaced as far down as the anterior superior spine of the ilium.

In the case of the second type of liver distortion (not elongated downwards) there is little displacement of the hepatic flexure.

The splenic flexure is generally well held in position by the strong phrenico-colic ligament. In about a fifth of Hertz's cases, however, it was somewhat displaced downwards, lying over the lower end and not over the middle of the left kidney, the phrenico-colic ligament having stretched. Out of the 50 women examined, only five had fairly normal topographical relationships. Of the various displacements described, a considerable number were made out clinically.

*J. C. Webster.*

# 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.]

## PERIODICALS.

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### THE CANADIAN PRACTITIONER.

Indications for operation in appendicitis—F. W. Winnett, Toronto, p. 158.  
Melæna neonatorum—J. W. Smuck, Toronto, p. 168.

### THE CANADIAN MEDICAL REVIEW.

Intubation—Alfred J. Horsey, Ottawa, Ont., p. 79.

### CANADA MEDICAL RECORD.

Nephrolithiasis—J. B. McConnell, Montreal, p. 281.  
Clinical lecture on a case of threatened puerperal eclampsia—H. L. Reddy, Montreal, p. 284.

### L'UNION MÉDICALE DU CANADA.

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La carie dentaire et les affections oculaires—le Dr. Roberge, Saint-Barthélemi, p. 135.

### NEW YORK MEDICAL JOURNAL (MARCH 13TH).

A portable vacuum chamber for house disinfecting by Formaldehyde—Wyatt Johnston, Montreal.

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### THE CANADIAN PRACTITIONER.

Opium in India—R. D. Rudolf, Toronto, p. 235.

### THE CANADA LANCET.

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The definition and scope of orthopedic surgery—R. E. McKenzie, Toronto, p. 380.

### THE CANADIAN MEDICAL REVIEW.

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### THE DOMINION MEDICAL MONTHLY AND ONTARIO MEDICAL JOURNAL.

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## THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

Morbid anatomy and general pathology—T. H. Manley, New York, p. 141.

## MARITIME MEDICAL NEWS.

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A case of hydatidiform mole—S. J. McLennan, Sydney, N.S., p. 132.

## KINGSTON MEDICAL QUARTERLY.

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Notes on blood and blood examination—W. T. Connell, Kingston, p. 114.

Notes on some medical cases—John Herald, Kingston, p. 119.

## L'UNION MÉDICALE DU CANADA.

Quelques remarques sur l'usage du tabac en rapport avec la muqueuse de la bouche et des voies respiratoires—A. A. Foucher, Montreal, p. 193.

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## BOSTON MEDICAL AND SURGICAL JOURNAL (APRIL 8TH).

On the iodine test for semen—Florence's reaction—Wyatt Johnston, Montreal,

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## THE CANADA LANCET.

Poisoning by illuminating gas—J. E. Graham, Toronto, p. 427.

## THE CANADIAN MEDICAL REVIEW.

Notes on a case of concurrent scarlatina and enterica—Frederick Fenton, Toronto, p. 167.

## L'UNION MÉDICALE DU CANADA.

Laparotomie pratiquée trois fois chez la même personne dans l'espace de seize jours—Kyste de l'ovaire, péritonite, occlusion intestinale, guérison—L. Coyteux Prévost, Ottawa, p. 257.

## MEDICAL NEWS (MAY 8TH).

The doctrine of the internal secretory activity of glands in relation to the pathological anatomy of sundry morbid conditions—J. George Adami, Montreal, (abstract) p. 581.

## Reviews and Notices of Books.

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**The Practice of Medicine.** By HORATIO C. WOOD, A.M., M.D., and REGINALD H. FITZ, A.M., M.D. J. B. Lippincott Co., Philadelphia and London; Charles Roberts, Montreal.

Of the writing of books there indeed seems to be no end, and another Practice of Medicine, recently published, attests this fact. The authors have attempted to view the practice of medicine in this volume from the "pathologic and therapeutic points of view."

Those parts dealing with therapeutics have been written by H. C. Wood, in addition to the section on nervous diseases, diseases of the muscles, acute and chronic poisoning, and the infectious diseases, except diphtheria, dysentery, tuberculosis, leprosy and syphilis. The balance of the edition is by R. H. Fitz.

As a text-book it is voluminous, having upwards of one thousand pages, and containing, as examples to medical students and young graduates, a brief formulary and a few temperature charts of the specific fevers.

The index is minute and clear, yet the page headings are not so definite as one would like. The name of the disease described on any given page is never found at the top, but its classification alone, *e.g.*, all infectious diseases are described seriatim, the page heading showing no indication whether syphilis or scarlatina is the subject discussed. This we claim is a disadvantage to one in turning up any subject.

That chapter dealing with the infectious diseases is full of interest, and contains, as text-book chapters go, the essentials in diagnosis and treatment.

That portion of this chapter on typhoid fever treats exhaustively of the clinical features of this important disease, but it contains some points which are worthy of notice. First, these authors are agreed in stating that the "rose-coloured spots" of typhoid are "not perceptibly elevated above the surface." Some adjectives may euphoniously receive the affix-*ish*, but, when "youngish" and "largish" are used in description, we cannot accept the choice of terms as the best. It is implied that three quarts of milk may be allowed to an adult ill with typhoid—an amount which appears excessive. Alcohol is recommended from the very "*beginning*" in every case of typhoid fever."

Too often, we think, the careless application of terms is to be found, *e.g.*, in reading of the prognosis in typhoid fever cases, we find the following, "it must be remembered that so long as there is life in a typhoid fever so long," etc. Again, on another page, we notice, "a pure diphtheria may closely simulate a scarlet fever." We cannot accept the description

of the *strawberry tongue*. In the description of valvular disease of the heart there is no mention made of the rhythm of thrill felt in cases of mitral stenosis and the cause of accentuated second pulmonic sound is the hypertrophied right ventricle. Under the treatment of "chronic cardiac disease, we find an interesting discussion of the use of drugs, and Wood is an advocate of the use of digitalis in the early weeks of valvular disease to induce favourable trophic changes.

Altogether the chapters on cardiac diseases are practical.

The treatment of pneumonia in robust cases by *veratrum viridi* is recommended and is much to be preferred to bleeding.

An important feature of this book, and one not usually found in text-books on the Practice of Medicine, is that portion of the section of diseases of the nervous system devoted to insanity.

The treatment of appendicitis and of acute peritonitis is discussed by each of the authors, each expressing his views on these important matters.

In the treatment of chronic gastritis, Wood says, "the one remedy that is useful is silver nitrate," and under the treatment of gastric ulcer we find it stated that "silver nitrate is by far the most generally useful."

We believe these authors have succeeded in a high degree in the aim of their book, "to view the practice of medicine simultaneously from the pathologic and therapeutic points," but it is our impression that the latter view is much the clearer, and that when the time is ripe for a second edition, considerable improvement in classification of symptoms, *e.g.*, under nervous diseases, definitions of diseases, and corrections of typographical errors will be made.

W. F. H.

**Transactions of the American Surgical Association.** Volume Fourteenth. Edited by DEFOREST WILLARD, A.M., M.D., Ph.D., Recorder of the Association. Printed for the Association. William J. Dornan, Philadelphia, 1896.

The Transactions increase in size from year to year. The present volume contains the papers read before the Association, at the meeting held May 25th, 27th and 28th, 1896.

It is a handsome volume of over 700 pages.

To give a review of these papers would be an extremely difficult task, but it can be said that it is a valuable book, and contains many papers of very great interest, as well as an able and pretty full report of the meeting of the British Medical Association, held in London in 1895, by the delegate from the American Surgical Association, Dr. S. H. Weeks.

Mention may be made of the address on Intracranial Operations for the Cure of Facial Neuralgia, by the President, Louis McLane Tiffany, M.D. The different operative measures are clearly defined and illustrated and their comparative merits discussed.

Several papers were read on tuberculosis of different organs by Senn, Vander Veer, Abbé, Fowler, Willard and others.

There are no less than four papers on the ambulatory treatment of fracture.

The present volume is very well worth reading and a credit to the American Surgical Association.

G. E. A.

## Society Proceedings.

### MONTREAL MEDICO-CHIRURGICAL SOCIETY.

*Stated Meeting, Feb, 26th, 1897.*

J. GEORGE ADAMI, M.D., VICE-PRESIDENT, IN THE CHAIR.

#### **Post-Typhoid Osteo-Myelitis.**

Dr. G. E. ARMSTRONG exhibited this case and related the following history:

This lad was admitted to the Montreal General Hospital in Dec., 1896, suffering from acute suppurative osteo-myelitis of the tibia. As you can see by the cicatrix the greater part of the shaft of the tibia separated. I have brought these large pieces of bone which I pass around. He is said to have suffered from typhoid in July and August, 1896. The tibia first showed signs of being affected during convalescence. At the time of admission to the hospital there was an acute suppuration process going on in the tibia and his temperature as you can see from the chart was decidedly septic. In fact, notwithstanding active surgical interference it seemed at one time as if the boy would succumb to septicæmia. We have had during the past few months several cases of bone lesion with suppuration following typhoid. One case that I expected to have been here to-night was a man who had a large abscess form over the left temporal and parietal bones, the pus containing a pure culture of typhoid bacilli. The occurrence of bone lesions after typhoid, has been noticed for several years.

Murchison reported several cases. Keen in 1876, reported upwards of forty cases, Sir James Paget twenty cases, and other writers have reported cases. In 1887, Ebernaier obtained a pure culture of the typhoid bacillus from two cases of post-typhoid periostitis. Erlgi fractured a long bone in one of the lower animals and at some distance from that point injected subcutaneously a pure culture of the typhoid bacillus. Suppuration occurred at the point of fracture and the pus contained a pure culture of typhoid bacillus.

Orloff also produced suppuration in the lower animals by subcutaneous injection of pure culture of typhoid bacilli.

In many of these cases of post-typhoid bone lesion, the pus contained mixed culture. The typhoid bacillus has been found with the common colon bacillus, the pneumococcus and other pyogenic organisms.

No bone seems to be exempt, but the hands and feet are seldom affected. The tibia suffers perhaps, more frequently than any other bone.

A marked characteristic of these post-typhoid bone lesions is their chronicity. Pain is often complained of during convalescence but it may be several months before suppuration is evident.

This condition requires radical treatment. Simple incision and drainage is followed by prolonged suppuration. Free incision, thorough scraping and irrigation with antiseptic solutions give good and satisfactory results.

Dr. F. J. SHEPHERD recalled a similar case which had been under the care of the late Dr. George Ross and himself fifteen years ago. It was then called a periostitis and treated by incision but the bone had not come away until last year.

#### **Removal of a Fibroma of the Mesentery with resection of nearly Eight Feet of Small Intestine.**

Dr. F. J. SHEPHERD exhibited the patient from whom the tumour shown at the last meeting had been removed. With regard to the question of interference with nutrition raised at the time, he stated that the man had gained a pound a day.

#### **Specimens Illustrating Necrosis of Serous Membranes.**

Dr. WYATT JOHNSTON exhibited the specimens. (Will be published later).

#### **Ruptured Tubal Pregnancy.**

Dr. A. LAPHORN SMITH exhibited the specimens and gave the following account of the case:

The patient had been married six years and had had no children. An attack of pelvic peritonitis occurred shortly after marriage resulting in more or less pain ever since, for which he had been consulted. Examination showed the uterus to be retroverted and fixed, and both tubes, especially the right, to be enlarged. After a course of local treatment she missed a period and he, suspecting tubal pregnancy, thought it important she should know what was going to happen and her husband was told that if she should fall in a faint he would know that the tube had ruptured, and to send for the doctor at once. Another attack of pelvic peritonitis supervened and while preparing her mind for the operation, one night he was sent for in a hurry and found her collapsed. After removal to hospital, laparotomy was performed, and on opening the abdomen two quarts of black clotted blood were removed. There was free hæmorrhage which was quickly controlled by ligature of the ovarian arteries. The foetus was found free

in the abdomen and was alive. The abdominal cavity was washed out with warm salt solution and left full, and a quart enema of the same solution administered. The patient had made an uninterrupted recovery and her pulse, 120 previous to operation, gradually fell to 80 afterwards.

### **Surgical Shock and How to Prevent It.**

Dr. A. LAPHORN SMITH in a paper on this subject said that we often heard it stated that no one knew what shock really was. He thought that this statement was not correct as we did know that shock was a vivid impression or powerful irritation of the great sympathetic nerve leading to a forcible contraction of the arterioles of the surface and throughout the body and a corresponding rush of blood into the great venous trunks especially in the abdomen, which latter he said were capable of holding all the blood in the body.

According to the above definition, a horrible sight, or a blow upon the abdomen, or concussion of the nerve centres might all cause true shock. But he did not wish to deal with these forms of shock, but with shock during surgical operation and especially during operations in the abdominal cavity. He maintained that genuine shock in these cases was rare, principally because the patient being under anæsthesia the great sympathetic was less sensible to powerful irritation. He thought that many cases which were supposed to be suffering from shock after operations, were really suffering from something else, and he endeavoured to show that the low temperature, weak and rapid pulse, and pallor of the face and the depressing of the mental and physical powers were due to one or other of the following causes: hæmorrhage out of the blood vessels, or hæmorrhage into the large veins; cooling of the body surface and prolonged anæsthesia; prolonged handling of the intestines, and prolonged stay in the bad air of a crowded operating room. He laid stress upon the importance of the Trendelenburg posture so as to prevent anæmia of the brain; and to the necessity of keeping up the pressure in the coronary artery by which alone the heart is fed, by keeping the whole arterial system fairly full either by transfusion of salt solution during the operation, or by warm salt enemata before and after the operation or by leaving the abdomen well filled with warm salt solution before closing it up. He also pointed out that much of the hæmorrhage could be prevented by finding the principal arteries and tying them before cutting them, as was done in abdominal hysterectomy which was now almost a bloodless operation. It should be remembered that a sudden hæmorrhage had much more serious results than a gradual one, as was seen in women with menorrhagia, who lost quantities of blood in a week

which would surely prove fatal if lost during an hour. He made a strong plea for speed in operating; this however did not mean carelessness or neglecting the minutest detail of asepsis. What he meant was absolute silence in the operating room so that the attention of nurses and assistants should not be distracted for a moment, and also to have a large number of well trained assistants to hand the various instruments and ligatures, &c., without being asked for them. He believed that metabolism or combustion was much lessened during anæsthesia as the patient got no good air to breathe and only a very limited amount of bad air, causing a depression of the vital functions from which the patient sometimes never recovered. He suggested a mixture of ether and oxygen, so that vital combustion would not be interfered with at all. He had always observed that the most successful operators kept their patients the shortest time under anæsthesia. He also pointed out the importance of having the intestines thoroughly emptied of gas and liquid before the operation as the less they were handled, the less danger was there of shock. The Trendelenburg posture was also of great assistance in keeping the intestines out of sight. Strychnine was valuable, not only because it kept the bowels contracted and empty, but because it stimulated the heart. He also advised the use of flat zinc pans under the patient on the operating table, filled with hot water, which was renewed from time to time in order to keep up the patient's temperature; this would enable the air of the operating room to be changed, instead of keeping it close and stifling. Great care should be exercised in keeping the patient dry throughout the operation. The requirements of asepsis necessitated the use of much water and if the patient's clothing were wetted the patient might be chilled, thus contributing to shock. He had found enemata of hot salt solution introduced gently of great value in rallying patients who were apparently in a condition of shock.

Dr. JAS. BELL said that the condition known as surgical shock covered a much wider range of conditions than those described by Dr. Smith. The real surgical shock was that due to accident, so-called surgical shock post-operative, was generally due to prolonged anæsthesia, loss of blood, or chilling. He fully agreed in the need of rapid, well planned surgical operations, as an unnecessarily prolonged anæsthesia might be of serious moment to the patient.

Dr. C. J. EDGAR, of Sherbrooke, had charge of five hundred miners and the picture conveyed to his mind by the word "shock" was that of a strong robust man pale as death, and pulseless, as the result of a severe injury. Dr. Smith had told how to prevent shock, but in these cases one did not have time to do anything but treat it. He had found a large warm enema of salt solution valuable.

## NEW YORK ACADEMY OF MEDICINE.

SECTION IN ORTHOPEDIC SURGERY, MEETING OF APRIL 16TH, 1897.

### **The Non-cutting or Unbloody Operation of Lorenz for the Re-position of Congenital Dislocation of the Hip.**

This paper, by Dr. G. R. ELLIOTT, was chiefly a description of the different steps of the procedure, viz. : 1. The reduction, or bringing the head to the level of the acetabulum. 2. Re-position, or wedging the head into the acetabulum. 3. The formation of a solid acetabulum by manipulation and allowing the child to walk about with the thigh fixed by plaster of Paris at about ninety degrees of abduction. The three steps of the operation were performed under chloroform on a patient, a boy twenty-two months old, by Dr. Elliott before the members of the Section.

Dr. T. H. MYERS reported the successful performance on a similar patient, three and a half years old, of Paci's method of manipulation. viz. : forced extension, flexion and then strong traction downward, There were telescoping, lordosis and all the other signs of dislocation, and one-half inch of shortening. A good deal of force was used in order to cause inflammatory adhesion. The limb was immobilised at thirty degrees of abduction, the spica was changed several times in the following six months and the girl was then allowed to go about with a walking brace and a high shoe on the sound side. She walked with a splint walk when the apparatus was removed. The limbs remain at a nearly equal length.

Dr. W. R. TOWNSEND said it would be a great advance if these cases could be cured without a cutting operation. In his experience and observation open methods had proved unsatisfactory. The patients continue to walk lame and dislocation is liable to recur. He thought the superiority of the new methods could not be taken for granted at once. He had treated one patient by the Paci method.

Dr. R. H. SAYRE had seen but one patient in whom the hip could be distinctly reduced by Bigelow's manipulation, but he had not been allowed to operate. In this case it was necessary to abduct the limb much more than had been done in the patient treated this evening. He had not achieved brilliant success by operating. In one case after the child had been walking for six months an abscess developed in or near the joint.

Dr. R. WHITMAN had operated four times by Lorenz's method and

had seen great advantage from the application of twenty-five or thirty pounds of traction for three weeks before the reduction. It facilitates bringing the head down to the level of the acetabulum which at times requires a great deal of force.

Dr. H. L. TAYLOR also thought these patients should have extreme forcible traction before the operation, in order to overcome more thoroughly the muscular contraction. Operative treatment had not been so far very encouraging, and he believed that this procedure held out a good prospect.

Dr. WHITMAN said that a point in its favour was that mothers would consent to it when they would not consent to a cutting operation. Moreover it did not confine the patient in a hospital or even in bed.

Dr. ELLIOTT said Paci's and Lorenz's procedures were entirely distinct. Paci aimed to build up a nearthrosis in the vicinity of the joint. Frequently the head did not pass into the acetabulum. His manipulations were first flexion to the physiological limit, then abduction, then lateral rotation and slow extension, then plaster of Paris for three months and then careful walking with an apparatus. In this original procedure of Lorenz, however, if entrance of the head was not obtained, he deemed the case a failure. It was this re-position plus loading the weight of the body on the bone which made the operation. The acetabulum was there, but rudimentary. The parts immediately began to develop when the bone was replaced. The presence of the bone stimulated the growth which had been absent. The force required in traction was sometimes very great.

#### **Achillo-Bursitis Anterior.**

In a paper on this subject, Dr. S. LLOYD stated that the affection was the result of traumatism from tight shoes, shoes wearing the heel, bicycle riding, jumping and fractures; or the result of septic, tubercular, gonorrhoeal or rheumatic infection. The symptoms were pain under the tendo Achillis on standing and walking and in the plantar region, swelling on the outer end of the tendon, hyperidrosis and extensive inflammation of the surrounding tissues. In the treatment, cold and warm baths, the application of tincture of iodine and mercurial inunctions were useless. Traumatic cases required prolonged rest and pressure, and cases having their origin in infection should be treated by incision, curetting and drainage.

Dr. WHITMAN presented a case of this affection in a woman of thirty-five years, who was on her feet from six a.m. till eight p.m. The symptoms, of one month's duration, had been pain in the heel and in the metatarsal joints, and on pressure of the os calcis. There

was slight thickening. He said these cases often become chronic, and acquired weakness of the arch, or flat-foot. Rest should be enforced. Acute cases required a plaster of Paris bandage, and chronic ones a brace to arrest the function of the joint.

Dr. SAYRE had seen cases among athletes, especially hurdle racers, who, in making a leap, landed on their toes.

Dr. MYERS had personally suffered an attack of this kind after a long bicycle ride. He could only walk with ease by everting the foot. In plaster the foot should be placed at right angles to prevent the trouble from becoming chronic.

Dr. V. P. GIBNEY said that before the pathology was clear, these cases used to be called rheumatism of the heel. The region of the tendo Achillis had not been clinically explored. A counterpart is found in the advance in our knowledge which enables us to recognize scurvy in the swelling of joints in children who were called rheumatic.

THE

# Montreal Medical Journal.

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

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VOL. XXV.

JUNE, 1897.

No. 12

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## BRITISH MEDICAL ASSOCIATION.

The latest accounts from England indicate that the number of members who have already taken passage is sufficient to tax the accommodation of the steamers which are to leave England about the middle of August. Hence members will do well to come out at an earlier date and make some of the trips and excursions before the meeting.

With a view of facilitating the arrangements, Dr. Adami left for England on the 22nd inst. While there, he will endeavour to arrange for further steanship accommodation for those desirous of visiting the Canadian meeting.

The various committees here are hard at work, and are accomplishing a great deal. The museum committee report themselves as well satisfied with the financial outlook of their department. The greater part of the space is taken up, and a large part of the remainder is being negotiated for. Their catalogue is to be a very unique production. No expense is to be spared to make the book as handsome and attractive as possible. As a proof of how the advertising firms look on it, already the best spaces have been taken without any solicitation.

The other committees report equally satisfactory results.

## THE PROGRAMME.

Members of the British Medical Association who propose to read papers at the annual meeting should at once notify the secretary of the section before which they intend to present the paper. To facilitate matters we append a list of the Canadian secretaries :

Medicine—Drs. H. A. Lafleur and W. F. Hamilton, Montreal.

Surgery—Drs. R. C. Kirkpatrick, Montreal; Thos. Walker, St. John, N.B.

Obstetrics and Gynecology—Drs. D. J. Evans and W. Burnett, Montreal.

Public or State Medicine—Drs. Wyatt Johnston and E. Pelletier, Montreal.

Psychology—Drs. J. V. Anglin and Geo. Villeneuve, Montreal.

Anatomy and Physiology—Drs. J. M. Elder and W. S. Morrow, Montreal.

Pathology and Bacteriology—Drs. W. T. Connell, Kingston ; C. F. Martin, Montreal.

Ophthalmology—Drs. W. H. Smith, Winnipeg ; Jehin Prume, Montreal.

Pharmacology and Therapeutics—Drs. F. X. L. deMartigny and J. L. Spier, Montreal.

Laryngology and Otology—Drs. Chretien and H. D. Hamilton, Montreal.

Dermatology—Drs. Gordon Campbell and J. M. Jack, Montreal.

The address of the Montreal Branch of the British Medical Association is 2204 St. Catherine street.

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### LAVAL UNIVERSITY MEDICAL LIBRARY.

In reply to a note sent to the Medical Faculty of Laval University by the Medical Faculty of McGill University, placing their library at the disposal of any members who might desire to use it, a most cordial invitation has been given by the former "to their *confrères* of McGill" to visit the library at Laval. It is open twice a week, on Monday and Thursday evenings, from 7 to 10. Thus these two large medical libraries are accessible to the profession of this city and their treasures made available, forming a most complete library of reference, both in French and English. We congratulate the authorities of both Universities on the wise and gracious step they have taken.

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### NEW BOOKS, &c., RECEIVED AND NOTED.

The Year-Book of Treatment. 1897. Lea Brothers & Co., New York.

A Treatise on Cholelithiasis. By Prof. Naunyn. Translated by Dr. Garrod, New Sydenham Society. 1896.

Shortening of the Round Ligaments. By Geo. M. Edebohls, A.M., M.D. Reprinted from American Gynecological and Obstetrical Journal. 1896.

The International Medical Annual, 1897. E. B. Treat, New York.

The Royal London Ophthalmic Reports. Vol. XIV. Part II. December, 1896.

Disorders of Indigestion in Infancy and Childhood. By W. Söltau Fenwick. H. K. Lewis, London.

On Hysterectomy. By L. Coyteux Prévost. Reprinted from American Gynecological and Obstetrical Journal, March, 1897.

Contribution to Traumatic Abdominal Surgery. By Thos. H. Manley. Reprinted from *Annals of Surgery*, April, 1897.

On the Treatment of Fractured Shafts of Bone in Children ; Simple, Complicated and Compound. By Thos. H. Manley, M. D. Reprinted from the *Journal of American Association*, October 31, 1896.

Results of (Chemical) Electrolysis vs. Divulsion or Cutting in the Treatment of Urethral Strictures. By Robt. Newman, M. D. Reprinted from *Medical Record*, March 27th, 1897.

Treatment of Uterine Fibroids. By Franklin H. Martin, M. D. Chicago. 1897.

Influenza. By William Gray, M. D. H. K. Lewis, London, 1897.

Syringomyelia. By Guy Hinsdale, A. M., M. D. P. Blakiston, Son & Co. 1897.

International Clinics. Vol. 1. Seventh Series. Lippincott, Philadelphia.

Genito-Urinary and Venereal Diseases. By J. Wm. White, M. D., and Edward Martin, M. D. J. B. Lippincott Company, Philadelphia.

## Obituary.

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### WILLIAM A. AIKINS, M.D.

It is our sad duty to chronicle the death of one who, for many years, held a leading position in the medical profession in Toronto. Dr. Aikins was born in 1827, and graduated from Jefferson Medical College, Philadelphia.

For forty years he practised in Toronto, and was elected to the proud position of President of the Toronto Medical School, and later Dean of the Medical Faculty of Toronto University, which he resigned in 1893, on account of ill-health. Since then he has lived in retirement until, on May 24th, he passed away.

### LAWRIE HOGG, B.A., M.D., C.M.

From London, Ont., comes the sad news of the death of Dr. Lawrie Hogg, a graduate of McGill University of the class of '95. He had successfully filled various positions in the hospitals of Montreal, and latterly had been resident gynaecologist in the Royal Victoria Hospital. Failing health obliged him to resign this position to the regret of every one. He went to his father's home at London for rest and change of scene, where he died on May 26th. His death comes as a shock to his many friends, for during his short stay among us he had made himself beloved by all. Our sympathy is with his bereaved relatives.

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