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Original Communications.

A TUMOR OF THE MEDULLA OBLONGATA.

BY J. E. GRAHAM, M.D., M.R.C.P. LOND.,

Professor of Medicine and Clinical Medicine, University of Toronto; Physician to the
Toronto General Hospital and St. Michael's Hospital.

THE following case of angeiosarcoma pressing on the restiform body on the left side of the medulla oblongata, I thought of sufficient interest and rarity to be reported in detail.

I am indebted to Dr. Howitt, of Guelph, for the greater part of the history of the case, as well as for the specimen which I now present to the association.

L. B., æt. 52 years, a cattle dealer, first consulted Dr. Howitt with regard to the illness now under consideration on March 7, 1895, and was referred to me by Dr. Howitt on March 27. Many of the notes of this case were obtained by Dr. McCrea from Dr. Howitt, as well as from friends of the patient.

Patient's personal history. Married. Temperate as regards alcohol. Was always active, and spent most of his time in the open air. There is no history of syphilis. He suffered from the diseases of childhood, but was otherwise healthy until eight years ago, when he had typhoid fever, a very severe attack with a high temperature, which for a week seldom fell below 104° . After a prolonged illness he recovered, and to all appearances seemed to be as strong as formerly. Three years ago he had an attack of acute articular rheumatism, which caused him to remain in the house for three weeks, and he did not completely recover until after three months. During the attack an indistinct mitral murmur was developed. A year ago—March, 1894—he suffered from la grippe, but had no medical attendant, and continued at his work. His wife states that on returning home one evening during the attack he felt weak, and as he entered the sitting room she noticed that his face became suddenly blanched, and before she reached him he fell backwards, striking against the window-sill the right with the back part of his head, on a line a little below the occipital protuberance. After the blow he felt sick at the stomach, but did not vomit. No other ill-effects were experienced either at the time or afterwards.

Except during the attacks of illness already described he enjoyed excellent health, and was able to endure more than the ordinary amount of physical exertion. He had a remarkable memory, and, although for some years his business amounted to over \$200,000 a year, he never kept a written record, but trusted wholly to his memory, and could at a moment's notice recall the minutiae of any business transaction for years back. After the attack of la grippe in March, 1894, although he looked well, he was easily exhausted, and noticed that towards the end of the following summer he could not stand long without leaning against something for support. About that time his wife observed that he could endure less cold than formerly, and that he wished the house to be kept extremely warm. He was more irritable, and became easily worried about his business. His sleep also became disturbed, but his appetite remained good. There was no change in the sexual power. Early in the autumn he noticed failing eyesight, and tried various kinds of glasses without benefit. He often could not read without covering one eye. Light caused pain, and he wore colored glasses for the first time in his life. The upper lid of the left eye was known to droop early in the winter. He had at the same time double vision, which was of temporary duration. In the early part of the winter he found it difficult to walk on a narrow sidewalk, owing to a tendency to go to the left side. This symptom was more marked some days than others. Giddiness was a prominent symptom about the same time. He also suffered at

times from great thirst. During January and February he would not go into the country without taking someone with him, as he always seemed to fear that there was something seriously wrong with him.

About February 1, 1895, he first spoke to his wife regarding a numb feeling on the left side of his face, which was especially noticeable when he shaved. He shortly afterwards noticed that the tip of his left thumb felt to him as if it had been burned on a hot stove. This was followed by an extension of the numbness to the left side of his neck, left shoulder, and left arm and forearm. He complained of pain in the arm near the elbow. The numbness then extended downwards until the whole of the left side was affected. During February he suffered from occasional attacks of vomiting.

When he first consulted Dr. Howitt, on March 7, he had a ravenous appetite, which continued until a short time before his death. He complained of the numbness on the left side of his body as already described, as well as of a peculiar feeling, as if the parts were enlarged; his fingers felt as large as his forearm, and the other parts in proportion. This feeling was at first relieved by going into a cold room or by exposure. On this account he often dreaded coming home in the evening. His tongue was enlarged, flabby, and coated, and he complained of a disagreeable sensation after taking food.

On March 27 the patient was referred to me, and I made as careful an examination as was possible in the two hours at my disposal. The patient at first seemed healthy and strong, but on closer examination a certain amount of unsteadiness of gait and more or less hesitation of speech were noticed. He described the onset of the disease as given, but stated that the numbness of the face came on quite suddenly. Although he complained of such marked numbness on the left side of the body general tactile sensation was not present to any marked degree. Sensation to pain and temperature was normal. He said the numbness was much increased by walking. He complained very much of the peculiar swollen feeling already described. The skin reflexes were normal, but the knee jerk was slightly increased on both sides. There was a slight difference greater than normal between the power of the left and right arm and forearm. He leaned a little towards the left side in walking, and had a tendency to fall to the same side. He could neither stand nor walk so well with his eyes closed as when they were open. There was a decided want of co-ordination in the left arm, as shown by attempting to touch the end of his nose with the index finger of his left hand when his eyes were closed. The reactions to the galvanic current were normal. The faradic was not used. No evidence whatever of muscular atrophy. The optic discs were normal, as were also the pupil reflexes, movements of the eyes, and fields of

vision. The hearing of the left ear was not so good as that of the right. He complained of headache both in the occipital and frontal regions. His appetite was good and his bowels were regular. Pulse and temperature were normal.

A careful physical examination of the chest and abdomen did not reveal any evidences of disease. The urine was also normal. It will thus be seen that at the time of his visit to me there were few, if any, objective symptoms, and all could have been explained by a supposed functional condition. I concluded, however, that a gross lesion was present for the following reasons :

(1) The previous character of the patient and the absence of any neurotic tendencies either in himself or in any of his near relatives. Moreover, there was no cause for nervous exhaustion in the nature of his work.

(2) The progressive character of the disease. One stage followed another without any sign of temporary improvement.

(3) The history of dizziness, and especially of persistent pain which he gave at the time of his visit to me.

After his return home the patient remained in much the same condition, becoming perhaps a little worse until April 7, when he gave up work altogether and went to bed. The chief symptom then was his inability to raise his head without becoming dizzy, and he appeared afraid to move his head on that account. He was at that time very restless. Vomiting was very troublesome, especially in the morning, and was accompanied by severe pain in the back of the head, in the side of the neck, and on the left side, as well as in the left arm near the elbow. After the vomiting ceased he suffered from wandering pain in the left side, especially in the lower anterior and lateral parts of the left thorax. His knees felt cold to the touch, and he had to have artificial heat applied constantly. During this time iodide of potash was given in constantly increasing doses until he took nearly two drachms at a dose. The drug seemed to have the effect of arresting the vomiting.

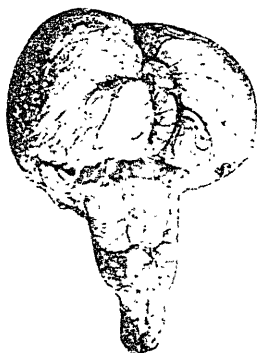
April 14. At this date the pain at the attachment of the diaphragm on the left side became intense, and the pulse and temperature rose for the first time. He suffered from difficulty of breathing and more or less loss of voice, so that he could only speak in a whisper. Moist râles were detected posteriorly in the left lung.

April 15. The râles on the left side became more extensive, and were also found in the right lung. There was dullness on percussion over the left side of the chest. He experienced some difficulty in swallowing, and some of the food would pass into the trachea, causing a choking sensation, and some, as he believed, passed only a short distance into the œsophagus

and was afterwards expelled. After he took to his bed the paralysis of the voluntary muscles of the left side increased ; the tongue, when protruded, pointed very much to the left.

The pulse until the temperature rose was usually about 70, and lacked tension. The patient's mind remained clear until the last. He died on April 16.

In addition to these notes taken by Dr. McCrea, I will give the following quotation from Dr. Howitt's letter sent after the patient's death : "The paresis on the left side never became complete, but it was so marked that he could hardly lift anything with the left hand. For two days before death he could not swallow food, especially liquids, without part of it entering the trachea. The muscles of the throat appeared to be more affected than any others. He had lost his voice and the ability to cough up the



free secretion which was caused by the irritation from food entering the trachea. Two or three days before the end he complained of severe pain in the left side of the chest, when fine râles were at the same time heard. These symptoms were accompanied by an elevation of temperature. The highest temperature was 102°. After this both lungs at back became rapidly consolidated. Cyanosis was a prominent feature near the close. His mind remained clear, and he whispered a good-by to his friends with his last breath. I obtained permission to open the head. Nothing of an abnormal character was noticed in the cerebrum. The cerebellum seemed to be wanting in firmness.

On the restiform body on the left side of the medulla a small vascular (at least to the eye being reddish in color) growth which projected above the surface. To the touch the tumor did not appear to be as firm as the structure in which it was placed.

The medulla oblongata and cerebellum were preserved in spirits and sent to me by Dr. Howitt.

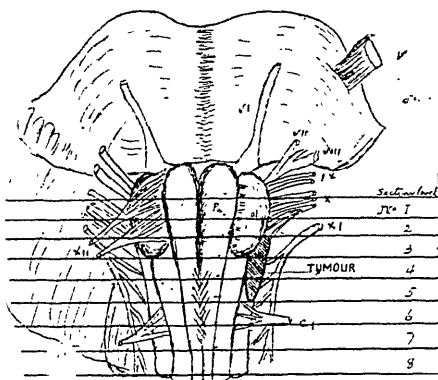
For the accompanying photographs I am indebted to Dr. E. E. King. Sections of the tumor were made by Drs. Starr and Hamilton.

The size and position of the tumor is as follows :

Longitudinal diameter from above downwards, 15 mm. ; transverse diameter in the widest part, 5 mm.

It is situated in the pia mater, pressing upon the restiform body, separated from the fourth ventricle by the posterior pyramid, and from the olivary body by a distinct column of fibres. Its upper extremity is on a line with the junction of the lower and middle thirds of the olivary body, and its lower extremity extends nearly one-fourth of an inch below at a line drawn through the apex of the calamus.

The tumor is circumscribed, and can be easily detached from the subjacent structures. The upper half is less adherent than the lower. When



the tumor is raised up a cup-shaped cavity remains, formed by pressure and wasting of the fibres of the restiform body. The cavity corresponds in depth to more than one-half the transverse diameter, about 4 mm., and the longitudinal and transverse diameters correspond with those of the tumor already given.

In looking up the literature of tumors of the medulla, I was surprised at the small number of recorded cases. In the ordinary text-books on nervous diseases very little mention is made of them. In the statistics of Guy's Hospital, as given by Fagge, thirty-six cases of brain tumor were recorded, of which twenty-two existed in the hemispheres and fourteen at the base. Six of the latter were cysts in the cerebellum, but the medulla is not mentioned. Special reference is not made to them by Gowers, and Byron Bramwell, in his work on intracranial tumors, devotes one page to this particular class.

Sokoloff, in the *Deutsche Archiv. f. Klinische Medicine*, 1887, made a

collection of seven cases of glioma of the medulla, six of which were circumscribed and one diffuse. Included in these cases were four of Bernhardt's,* one by Broadbent,† one by Jacob,‡ and one by Schmidt.§ In six of these cases the tumor arose from near the floor of the fourth ventricle. Sokoloff arrived at the conclusion that gliomata of the medulla, with the exception of those involving also the pons, were nearly always of central origin, and were not seldom softened in the centre. A case was described by Dr. Osler, in the *Journal of Nervous and Mental Diseases*, in 1888, which in many respects resembled the one now under consideration. The patient, 32 years of age, was admitted to the Pennsylvania Hospital on March 4, 1887. Among the symptoms were headache, odd sensations throughout the body, and convulsions. There was no loss of power of the arms or legs. On getting up he carried his head stiffly, but was able to move it at will. He walked without assistance, but felt a peculiar sensation in the legs and a tendency to sway from side to side. Co-ordination not impaired and sensation everywhere retained. He complained of numbness, tingling and creeping feelings, as well as of a sensation of cold feet. He remarked, "They are warm, but they feel cold." Special senses normal. He complained of a severe occipital headache which could not be separated from a painful feeling and a stiffness of the neck. Reflexes were normal, except that the patellar tendon reflex was somewhat exaggerated. The convulsions were bilateral. He died suddenly. A tumor, an angeiosarcoma the size of a large pea, was found below the calamus, projecting more towards the left than towards the right side. The sudden death was caused by central hæmorrhage.

Another case was reported by Dr. Glyn|| of a tumor of the medulla in the neighborhood of the calamus scriptorius.

A tailor, æt. 31, presenting the following symptoms : Hearing, smell, and taste normal, motor and sensory paralysis of all the extremities, paralysis of the diaphragm, partial paralysis of the tongue and lips, slightly impaired sensibility of the face, dyspnœa, cough and strangulation produced by irritation of the nerves and muscles of the pharynx and larynx.

Post-mortem. Excess of fluid at base and in the lateral ventricles, a small glioma in the middle line of the medulla on a level with the calamus scriptorius, not larger than a pea, with a soft central portion. It was situated about an eighth of an inch from the posterior surface of the medulla.

In de Jonger's§§ case a tumor the size of a small bean was found on the

* *British Medical Journal*, 1881.

† *Lyon Médical*, 1883.

‡ *Journal of Mental and Nervous Diseases*.

§ Bertroque *Zun Symptomatologic der Hirngeschwulst*, Berlin, 1881.

|| Glyn, *Lit erpool Medical Clinical Journal*, 1887.

§§ *Archiv. f. Psychiatric*, Berlin, 1882.

left side at the lower extremity of the olivary body and posterior to it. The symptoms were persistent glycosuria, dizziness, vomiting, diplopia, and lateral paralysis of the right upper and lower extremities and right side of the face. Increased sensibility of the right side.

It will be noticed that in all these cases the tumor existed in the substance of the medulla. I have only been able to find two cases in which the tumor was external and produced the symptoms by pressure inwards.

In one described by Brissaud in the *Prague Medical*, 1894, the tumor implicated the cerebellum as well, and the symptoms were more those of a cerebellar tumor than one of the medulla.

The second case by Charcot was published in the transactions of the Société de Biologie in 1851. A tumor the size of a small pigeon's egg, compressing the right side of the medulla and the nerves which spring from it. The patient complained of severe occipital and temporal headaches, pain and tenderness of the neck. Noises and bright light increased the headache. A tendency to vomit on movement of the body necessitated the recumbent position. There was contraction of the pupils, and most obstinate constipation with tenderness of the abdomen. Relief followed the application of leeches to the neck and the use of purgatives. No pain or contractions of the extremities. Right side a little more feeble than the left. Neither strabismus nor deafness. Pupils dilated equally, no vertigo, hallucinations, nor noises in the ears. A month after admission there was little change. Patient protruded the tongue to the right, but could move it to the left when requested. Deglutition imperfect, vomited a good deal. Increased prostration and death without convulsions. The tumor, situated in the right side of the cerebellum, pressed on the right peduncle of the cerebellum, extending to the left side of the medulla.

It will then be seen that in some respects this case is unique. I have not been able to find the record of a single one in which an extramedullary tumor so small as this one pressed on such a limited portion of the medulla and did not implicate the cerebellum. In reviewing the symptomatology of tumors of the medulla, the ordinary symptoms of brain tumor, persistent headache, dizziness, and vomiting are nearly always present in a greater or less degree. Double optic neuritis is not nearly as often found as in cerebellar tumors. Two general symptoms appear to be prominent in many of the cases: (1) Occipital headache, which extends down the back of the neck, and tenderness and stiffness of the latter region. (2) A peculiar sensation of coldness in the lower extremities. These were especially noticeable in Dr. Osler's case, as well as in my own. The other symptoms resulting from implication of the nerve nuclei in this region will vary with the situation of the tumor, and need not be especially referred to here.

The question now arises, Can we explain all the symptoms in this case by pressure of a tumor on such a limited portion of the medulla? By the aid of the drawings which I now show you, it will be seen that the ascending, or sensory, root of the fifth pair is in close proximity to the situation of the lesion, and this may account for the numbness of the face, which came on quite suddenly, and was the earliest of the localizing symptoms. The direct cerebellar tract also forms part of the restiform body, and the loss of co-ordination in the legs and arms may be accounted for in this way. Flechzig was of the opinion that the direct cerebellar tract conducted sensations from the muscles of the lower part of the body. In this case the muscles of the arms were much more affected, as far as conduction was concerned, than those of the legs. The nucleus of the auditory nerve lies just on the inner side of the restiform body, and the decided loss of hearing in the left ear may have been produced by greater or less destruction of this nucleus.

The slender columns of Lockhart Clarke pass also immediately internal to the restiform body. This has been termed by Krause the respiratory column. It is intimately connected, in the medulla, with the vagus, with the glosso-pharyngeal and spinal accessory nerves, and the respiratory symptoms in our case may be due to its destruction on one side. The nuclei of these nerves may also have been affected. The glosso-pharyngeal was seriously affected, as shown by the symptoms connected with deglutition which were present during the latter part of the illness. In one respect the symptoms in this case differ from those of tumor of the medulla as they are generally given. The disturbance of motion and sensation existed on the same side as that on which the tumor was found, although the pressure was exerted above the decussation of the lateral pyramidal tracts. It must, however, here be noted that, although the growth was on about the same level with others described, it was extra-medullary, whereas the others were intra-medullary, most of them having arisen from the ependyma of the fourth ventricle.

In Charcot's case, in which the pressure on the medulla was from without, the disturbance of motion and sensation was on the same side as the tumor. It will be remembered that the lower extremity of the growth was about a fourth of an inch below the apex of the calamus, and it is possible that some degeneration of nerve structure may be found below that point so as to influence motor fibres after decussation takes place. According to Spitzka the restiform body is made up of (1) the fibres of the direct cerebellar tract of the same side; (2) the decussating fibres of the opposite postero-external column of the cord which have previously passed through the olivary body; (3) some fibres of the postero-external columns of the same side. The destruction of sensation

may be due to pressure on either the second or third class of fibres as they have just been given. The want of co-ordination may have also been due to implication of the same fibres, as well as to pressure on the direct cerebellar tract. There was really very little absolute loss of sensation when I examined the patient ; rather the presence of sensation of an abnormal character.

On microscopical examination the tumor was found to be a round-celled sarcoma, part of which was freely supplied with blood vessels. The short course of the disease may have been due to the fact that the tumor was of a rapidly-growing character, thus seriously interfering with the circulation of such an important nerve centre.

It is quite possible that the accident in which the patient received a blow on the back of the head may have accounted for the growth, which appeared within a year.

134 BLOOR STREET EAST.

TREATMENT OF PUERPERAL SEPSIS.*

BY HENRY T. MACHELL, M.D.,

Professor of Obstetrics, Ontario Medical College for Women; Surgeon to St. John's Hospital for Women; Physician to the Victoria Hospital for Sick Children and the Infants' Home,

TORONTO.

WHEN your secretary wrote a few weeks ago, inviting me to open the discussion on obstetrics by a paper on "The Treatment of Puerperal Sepsis," I thought the selection of the subject a most opportune one. In the first place, it is a subject in which every single member of this association is interested, either directly or indirectly, and, in the second place, the large mortality among the profession generally should set us thinking.

Before the theories of Semmelweis were made known, the mortality in the hospitals and maternities was much greater than that of the outside profession; while since the theories of antiseptics and asepsis have come to be generally accepted, the reverse is the case. While the mortality in the lying-in institutions has dropped from 10 per cent. to 0.5 per cent. or less, the mortality of the general practitioner is now about the same as it was before the creation of antiseptics in surgery by Lister in 1866, and its application in obstetrics by Stadfeldt, of Copenhagen, in 1870.

According to the Provincial Registrar-General's report for the year 1893, the last year in which the records are complete, I find that the deaths from "puerperal diseases"—not puerperal sepsis, please bear in mind—are as follows: Toronto, with a population of 190,000 and births 4,153, two; Hamilton, population 50,000, births 1,109, none; Ottawa, population 45,000, births 1,089, one; London, population 32,650, births 604, none; and the county of York, 257,000, births 5,559, one.

I tried to find the number of deaths in Ontario for any specific year, but such is not obtainable from the records without an amount of figuring which I could not give to the subject.

Does anyone here suppose, for a minute, that the figures I have quoted give us any idea of the frequency of "puerperal deaths" in these

* Read at a meeting of the Ontario Medical Association, Windsor, June, 1896.

four cities? I think not. "A rose by any other name smells as sweet," and so these deaths go down in the records by another name.

In these nor any other mortuary statistics is any account taken of the thousands of cases of mild puerperal sepsis which do not end in death, but leave the patient more or less of a physical wreck, scarcely able to look after herself, her husband, or her children—one who is likely to come later under the care of the gynæcologist, and possibly require "a section" for the cure of a pus tube, pelvic abscess, or some kindred disorder. These are the unreported cases, oftentimes the unrecognized ones, which occur in the practice of the physician of the "old school," who does not believe in this new fad, the modern "doctrine of germs," who has never practised antiseptics, has never had a death, and who has never seen but one or two cases.

We can only think such experience indicates an inability to recognize mild sepsis, and a habit of overlooking its manifestations, or affixing fanciful terms, such as "malaria," "milk fever," "fever from mental emotion," "the grippe," and "merely the result of exhaustion," etc., to a slight rise in temperature, a moderate tenderness of the abdomen, and a staleness of the lochia, which are characteristic of mild sepsis.

These, I repeat, Mr. President, are some of the reasons why I think the subject an excellent one, but I am very sorry, indeed, that the task of introducing it to the association has not fallen to other and abler hands.

The first point which seems to suggest itself is as to the nature of the poison in puerperal sepsis. Modern investigation has pretty well shown that the poison is septic in character, and that puerperal fever is really a surgical fever (that is, a fever produced by the introduction of bacteria), modified by the peculiar physiological conditions which belong to the puerperal state.

Prophylaxis. A knowledge of the causes of puerperal infection naturally suggests the proper prophylactic treatment. The indication is to exclude all bacteria: "No bacteria, no infection; no putrefaction, no suppuration." The same general principles of asepsis which have given such uniformly good results in surgery must be applied in all their rigor to obstetrics.

If consulted beforehand, the physician should advise his patient to select for her accouchement a large, cheerful, well-ventilated room, as far as possible from the water-closet and all sewer contamination. It should be scrupulously clean, and special attention given to all the linen. Simple boiling is usually sufficient. If the patient's condition requires it, tonics, etc., should be prescribed.

Lusk says: "The ordinary carriers of infection are unquestionably the unclean hands, instruments, utensils, clothing, wash material, and the like,

which are brought in contact, during or after labor, with the genitals of the female." Therefore, before making any examination the hands should be washed for some minutes with *hot* water and soap, and a stiff nail-brush freely used, as well as the penknife. The latter should be used for the purpose of removing germs from under and around the nails, but also for smoothing and trimming the nails, so that they may not scratch or irritate the vaginal mucous membrane in making an examination. The hands should then be dipped in a 1-20 carbolic or 1-1,000 bichloride solution and held there soaking for several minutes. The plan of pouring a few drops of carbolic acid in an uncertain quantity of water and then dipping the fingers lightly for a few seconds, or dropping a bichloride tablet in a basinful of water and toying with the ends of the fingers, as I saw done only a few weeks ago, is only likely to end in disappointment to the physician and, possibly, injury to the patient. I very much prefer hot water, soap, and a nail-brush—in other words, simple cleanliness—to this form of antiseptis. Howard Kelly's method of disinfecting the hands, while theoretically and practically the most perfect, will be found inconvenient and too complicated for the regular practitioner. Having washed and disinfected the hands, some lubricant should be used for the fingers, both in the interest of the patient and practitioner.

When possible, the external genitals should be cleansed with hot water and soap, and then the bichloride solution. This should be done more especially in dirty homes, or in patients of filthy habits, or in those who may be suspected of having omitted the usual preliminary bath. "But a healthy woman, clad in clean clothing, lying upon clean bedding, on a clean bed, and in a clean room, is quite ready for labor, and it will be the fault of those who touch her if she has puerperal fever."

Labor should be conducted so that the examining fingers enter the vagina as rarely as possible. If palpation and auscultation be practised early in labor, vaginal examinations need be but few. Before each examination, however, the hands should be washed again and dipped in the antiseptic solution.

In maternities and hospitals where the usual midwives and careless practitioners have made examinations before advising their patients to enter these institutions, the prophylactic douche is necessary; but in private practice it is certainly needless and often harmful.

Lacerations of the perinæum are particularly to be avoided, and to this end look well after the head as it is pressing on the perinæum. Use the fingers, the hand, the forceps, and chloroform to prevent the head from coming down too rapidly. The care of the perinæum should lie in the direction of keeping back the head, rather than in stretching or other manipulation of the perinæum itself. If the bowels move

about the time the head is being born, the anus should be covered, and all wiping should be done in the direction away from the vulva, and also done with the left hand.

The next point to which attention should be paid is emptying the uterus. Before the baby is fully born, the left hand should grasp the fundus and make some steady downward pressure. Too great haste should not be made to get away the placenta. Its hurried removal often means hæmorrhage a little later on. It should be removed by expression, and thus entering the vagina again avoided. The placenta and membranes should invariably be examined, and in case of a reasonable suspicion existing that a piece of placenta is left behind an examination of the uterine cavity should be made, and, if the suspicion is well founded, steps should be taken to remove what remains. The uterine cavity should not be explored as a matter of routine. Portions of membrane are not infrequently left behind, and should always be removed when this can be done easily and without much force. I have frequently left a piece hanging from the os rather than pull forcibly and risk its tearing off, and, on making enquiries next day, have usually been told that it came away during the first urination. If it has not been noticed, then it is quite time enough to introduce a finger and hook it out.

Should a vaginal douche be given immediately after each labor? I believe not, and have not followed this method for years. If the labor has been a severe one, even if the uterus has been invaded, I very seldom give either a vaginal or uterine douche immediately after labor. If at all uncertain of the condition of my own hands, or someone else's, it is better to give a douche, and preferably the bichloride one.

Whether the vaginal or uterine douche is used or not, the external genitals should be cleansed with an antiseptic solution after every labor or miscarriage and an examination made for perineal or vaginal lacerations. If found, it is of the utmost importance in the light of recent pathology that they should be closed at once; and, to this end, every obstetrical bag should always be provided with the proper accessories for doing this. It is much better to do the repairing at once than wait while one goes home for proper instruments, or to put it off "till the patient is stronger."

I am not wedded to any particular kind of napkin, provided it has been boiled and that it is large enough to exclude the air, and absorbent enough to take up the discharge from the vagina.

For the four days following labor it is advisable to have the nurse cleanse the external genitals with one of the antiseptic solutions every four hours, and during the succeeding four days every six hours. I prefer to have this done with the corner of a clean napkin, the nurse first having washed her hands.

Another possible cause of sepsis is the digital examination of the patient by the nurse before the physician's arrival.

These are the main prophylactic measures, and, if faithfully carried out, will, I am positive, be the means of saving our patients from occasional sepsis and ourselves from more or less anxiety:

Diagnosis. We all have a natural aversion to admit the possibility that sepsis may arise in our own practice, and we try to adopt every other explanation of the condition of the patient. Notwithstanding this, we should bear in mind that under strict asepsis the convalescence from labor is always perfectly smooth and unattended by any elevation of temperature, unless some intercurrent disease is present; that the mild disturbances which are frequently seen must, therefore, be considered mild sepsis; and that it is seldom possible to say in advance that they are not the initial stages of a severe attack. Every rise of temperature or disturbance of health during the puerperium is not, of course, due to sepsis; but every such disturbance should be considered sepsis until some other cause can be established to account for it. This is preferable to the physician shutting his eyes to the possibility of sepsis, and admitting it only after the incurable stage is reached.

For twenty-four or thirty-six hours after labor the temperature may be elevated as the result of fatigue, but if the subsequent temperatures should be above 99° its cause should always be promptly investigated. It may be due to (1) constipation, (2) mammary disturbances, (3) intercurrent non-obstetric disease, or (4) sepsis.

If constipation is present, it must be removed before the existence or non-existence of sepsis as a cause of the elevation of temperature can be absolutely determined. It is well to see that the bowels are thoroughly moved. I recollect a case on Kensington Avenue which gave me some anxiety for about forty-eight hours. The temperature ran up between the second and third day to 101° , the pulse was rapid, and there was headache and loss of appetite. The uterus was somewhat tender, but the after-pains had been pretty severe. The lochia were normal. I ordered a purgative, and though the bowels had moved later in the day when I called the patient was no better. I examined the slight perineal tear again, thought it looked irritated, and promptly took out the stitches. After I had done so I found the wound quite healthy, and before leaving gave a vaginal douche and calomel gr. vij. The next morning I found that the bowels had been emptied of some offensive material and the high temperature and headache had disappeared within a few minutes.

Slight disturbances in the breast may account for some rise of temperature, and should be easily eliminated by a physical examination, but the breast should not be permitted to account for the disturbance

unless the more constant symptoms of sepsis are absent, nor if the relief of the mammary irritability is not followed by a prompt drop in the temperature. The intercurrent, non-obstetric diseases are not to be lost sight of. The principal ones are (1) tonsillitis, (2) pneumonia, (3) malaria, (4) epidemic influenza, (5) typhoid fever, and (6) pre-existing latent inflammatory diseases in the pelvis. Tonsillitis is to be excluded by an examination of the throat, pneumonia by an examination of the chest, bearing in mind that cough and hurried breathing are often merely reflected from the pelvis. Malaria can only be differentiated from by a careful exclusion of the main features of sepsis. Chills recurring at regular intervals, and out of proportion to the constitutional disturbance, and which are followed by feverishness and a return to comfort before many hours, are more suggestive of malaria. By having the temperature taken frequently during the day there should be no difficulty, within thirty-six or forty-eight hours at least, in excluding malaria. In Toronto we have no trouble in this respect, for malaria here is a thing of the past. Since the advent of la grippe some half-dozen years ago, this disease has, to a great extent, taken the place of malaria during the lying-in period. La grippe is a convenient excuse, and one which usually pleases the patient. Typhoid fever, coming on two or three days after labor, is difficult to exclude for a few days. About fifteen years ago this occurred to me in the wife of a well-known clergyman here. After a normal labor the patient on the third day had one or more chills, followed by pyrexia, and, as I neither could nor would make a diagnosis, a homœopathic physician was asked to do so. A second member of the family had typhoid fever shortly afterwards.

Of course, a patient may have one of these intercurrent diseases and also sepsis as well. Yet it should be borne in mind that when the thermometer shows an elevated temperature the probabilities are decidedly in favor of sepsis if there is not positive evidence of some other disease.

Without doubt *the* treatment is the prophylactic one. Second only to this is the early diagnosis. Dr. Edward Reynolds, of Boston, has put this so forcibly that I give you his own words: "The early diagnosis of sepsis rests mainly on the physical signs which can be gained by examination of the patient. The symptomatology of obstetrical sepsis is commonly described as consisting of an elevation of temperature, a decrease in the lochia and milk, some decrease in the other secretions of the body, foulness of the lochia, and abdominal distension and tenderness, which latter is most marked over the fundus of the uterus; but this description is of little value to-day. He who fails to diagnose sepsis when such symptomatology is presented to him is ignorant of the rudiments of his art, while he who must wait till this symptomatology is present is unable to

diagnose sepsis at a time when his diagnosis is of very great value to his patient, for this group of symptoms is the symptomatology of constitutional infection, and when this is present the disease has passed beyond its early and curable stage, the physician has failed in his duty, and the patient is in an extremely dangerous, if not hopeless, state."

The principal diagnostic points which are of value in the early stage of the disease are the course of the temperature, and certain characteristics of the uterus only made out by a bimanual examination. A close scrutiny of the temperature will give us the earliest hint that something has "gone wrong." It is the first danger signal hung out by nature. This should always be put down in black and white during every labor. In the ordinary form of sepsis the temperature is usually gradual and insidious in its rise. The other main early diagnostic points are in connection with the uterus itself. There is almost invariably tenderness as soon as the temperature shows even a slight rise, and this tenderness persists.

Given, then, a gradual rise of temperature and uterine tenderness, we have, in the absence of otherwise unexplained pyrexia, a sufficient reason for making a genital examination. If, in addition, there is fetor of the lochia, a careful vaginal examination is positively called for. If the perinæum has been torn, examine this carefully with the patient on her back and in a good light. If angry in appearance, or stitch-hole abscesses exist, or any localized tenderness or bogginess is to be felt, the stitches should be removed and parts cleansed. The vagina should then be examined and search made for simple abrasion, laceration, or the diphtheritic gray patches. Having made an inspection of the vaginal mucous membrane, attention should be called to the cervix and cervical canal. If no lacerations or gray patches are found, an applicator wrapped with sterilized cotton is passed into the uterus and the odor of the lochia noted, as the uterine lochia may, in early sepsis, be offensive at a period when the vaginal lochia are still normal. If no odor is made out, the sterilized swab may be put into a sterilized test-tube and a bacteriological examination made later. If traction is made on the anterior lip of the cervix by a volsellum, it will facilitate the introduction of the applicator. It may so straighten out the canal that pent-up lochia may gush out. The odor of this is to be noted, and also the degree of dilatation of the canal. A bimanual examination should now be made. The size, consistency, and tenderness of the uterus should now be noted, since subinvolution, undue softness, and tenderness of the fundus and an undue potency of the os are characteristic of the infected uterus. Finally, the broad ligaments and uterine appendages should be palpated for acute inflammatory conditions in their substance. Such an examination will well repay the physician by a relief from anxiety consequent upon the exclusion of sepsis, or by the advantages to the patient from an early diagnosis.

Treatment. If the inspection shows vaginal lacerations or gray patches and foul vaginal lochia, while the cervical lochia are normal, it is only necessary to disinfect the vagina, which can be done by a bichloride or carbolic or creolin douche, followed by the application of pure carbolic acid, or undiluted Churchill's tincture of iodine, to the lacerations. The parts should then be dusted well with powdered acetanilid, or iodoform. A repetition of this may not be called for. But, if the patient is no better on the following day, or if, in addition to the infected vagina or cervix, the os is quite patulous and tender and the uterus soft, flabby, and over large, the chances are that the endometrium is already infected, and to it attention must be directed.

It may be treated by antiseptic uterine douches, by douches and iodoform bougies or pencils, as first advocated by Richardson, of Boston, and by both of these methods in combination with thorough curetting. Before deciding upon any of these methods it is prudent, and may prevent a waste of valuable time, to introduce the index finger into the uterus and explore the whole endometrium. Valuable hints are often obtained in this way by the intelligent finger accustomed to palpation.

Of what use is the douche, if the finger finds a piece of placenta attached or membranes adherent, or how absurd to think of curetting when an intrauterine douche alone would be sufficient to carry out a few small pieces of decomposing membrane. Intrauterine douches are of undoubted value in cases of that condition called by Matthews Duncan sapræmia, where there is simple absorption of ptomaines from the decomposition of a blood clot or retained membranes. Simple sterilized water thrown well up to the fundus answers well in these cases, and often does not require repeating.

Intrauterine douching is not without its dangers, but they are not so great as sepsis. The same may be said of the curette, but these are more frequently the result of carelessness, and therefore may more easily be avoided. The two main dangers from the curette are, first, that "an incomplete removal of débris leaves a fresh wound in direct contact with septic material; but experience shows this can be avoided by thoroughness in the use of a good technique." Second, the walls of the puerperal uterus are soft, and might be perforated by a sharp or small curette, if carelessly used. The curette should have a large blade, to save time in going over the interior of a large uterus, and also to distribute its pressure over a large surface. (In abortions a small one is more useful for obvious reasons.) It should have a shank long enough to reach the fundus, and the shank should be flexible, so as to enable the operator to curve it sufficiently to reach every portion of the endometrium. The Rheinstadter irrigating curette is advised for this purpose by Edward J. Lee, of Newark. If

an intrauterine douche only is indicated, I am in the habit of turning the patient across the bed and using this tube (tube shown) without a speculum. It is long enough to reach the fundus, except in very large uteri, when I use a long glass tube. Either can be boiled; the vulcanite one may be given any curve desired.

If it is thought advisable to use the curette, and I think it always best to do so except in the simple sapremia cases, the patient should be placed across the bed, with or without an anæsthetic, the cervix exposed through a speculum, the anterior lip caught by a volsellum, and particular notice taken to see if there is a gush of lochia on making traction and straightening out the uterine canal. (If such is the case, drainage by a light gauge iodoform tampon is always indicated after the curetting.) The os being exposed, the douche tube, emptied of air, is passed through the speculum up to a point near the fundus, and a stream of bichloride solution turned in and continued till it returns clear. The curette is then to be used, going carefully over such surface, taking particular care to scrape thoroughly the cornua in the neighborhood of the Fallopian tubes. I am in the habit of steadying the fundus with the left hand over it. There is less danger of perforating the uterine wall if this is done. If the curette scrapes off much placenta or decidua, the douche had better be used again; if very little is scraped off, wiping the interior thoroughly with cotton on an applicator till dry is preferable, then swab it with Churchill's tincture of iodine. In the large soft, flabby, thin-walled uteri, after being dried, the application of pure carbolic acid to the endometrium disinfects it, seals up the torn ends of the vessels, and does not prevent one using a light gauze drain afterwards, as the Churchill does. In other cases I prefer the strong Churchill. It seals up the vessels, and, in addition, sets up powerful uterine contractions, as anyone is compelled to observe who tries to withdraw the applicator charged with it from the uterus. If properly performed, the method is often admirable in its results. A couple of years ago I saw in consultation a case on the eighth or ninth day after labor in which the attending physician had curetted once and given intrauterine douches daily, and yet the chills recurred and the temperature kept up from 102° to 105°. I used the sharp curette (tentatively at first), removed some hard placental masses, and swabbed the uterus with pure carbolic acid, and then Churchill. The temperature dropped to normal within twenty-four hours. This was merely the result of thoroughness in curetting. If the curetting and disinfection have been thorough its repetition will seldom be necessary, and the disappearance of the septic symptoms within twenty-four or forty-eight hours will be the rule. These cases should all get well.

There is another class of cases, however, where on the third or fourth day the temperature suddenly rises above 101° with or without a chill.

These cases of septicæmia are ones of extreme virulence, and usually promptly fatal. Such infection can only occur from the introduction of great numbers of pathogenic bacteria. This form has been called by Garrigues *septicæmia acutissima*. Prompt curetting and disinfection may even be too late to save these cases, but this should always be done once, and done early, even though one may fear that the bacteria have already produced septic infection and are beyond the reach of the curette. Apparently hopeless cases will sometimes recover after curetting, especially if active supportive treatment be instituted at the outset.

In sepsis, beginning as a mild form, which has been allowed to run on some time before effective treatment is begun, and in acute cases, where the bacilli rapidly invade the uterine and other pelvic structures, surgical treatment must come up for consideration ; but at present this is a field in which much is to be learned, and in which grounds for positive opinions are not yet clearly defined. In a small class of cases, however, obstetricians and gynæcologists join hands in advocating a prompt resort to abdominal section. I refer to those cases where there is a "pre-existing pus tube, a uterine fibroid, or ovarian dermoid, converted by the trauma of labor into activity as an infecting source."

Byron Robinson, of Chicago, reports two cases of suppurating puerperal peritonitis caused by rupture of pathogenic cysts in the Fallopian tubes. These two cases, shown by autopsy, occurred in Cook County Hospital, after a run of over eighteen hundred cases without a death. Having decided by a careful bimanual examination in connection with the previous history of the case that the cause of the sepsis is extrauterine, there are theoretical grounds, at least, that the proper method of treatment is "prompt operation, irrigation, and drainage." Hirst, of Philadelphia ; Davis, of Birmingham, Ala.; and Edward Reynolds, of Boston, have each operated for this class of cases. Chas. P. Noble, of Philadelphia, believes that cases of puerperal peritonitis in which the septic is more marked than the inflammatory element are not amenable to treatment by cœliotomy. He says : "I know of nothing, either in my own experience or in literature, which gives the least encouragement for operating on this class of cases. All that have been operated upon have died. A simple cœliotomy, with washing out the peritoneal cavity, does not influence the principal seat of the trouble, which is in the uterus and pelvic lymphatics. Cases of puerperal peritonitis in which the septic element is less marked are more amenable to treatment."

Polk and Outerbridge, of New York, have reported successful cases of cœliotomy for localized peritonitis, done within the first week, and many others at a later period.

Noble says it is safe to conclude that the prognosis of cœliotomy done

for general puerperal peritonitis is fatal. Edward A. Ayres corroborates this. He has been able to collect nine cœliotomies for general diffuse septic peritonitis, of which eight were fatal.

Large or well-marked pus accumulations had better be opened through the vagina. I discharged a patient from St. John's Hospital a fortnight ago in which this was done for cellulitis following an abortion.

There is another class of cases yet, in which the disease goes on from bad to worse in spite of curetting, irrigation, etc., cases in which the infected uterus is the nidus of the disease, the peritoneum, the cellular tissue, and lymphatics escaping, or being but slightly involved. A few years ago these cases would have been treated by repeated irrigation, and probably a few would have recovered, but the majority would have done otherwise. Now, it is proposed to perform hysterectomy in such cases. Howard Kelly, Laphorn Smith, and C. B. Penrose have each performed successful operations. Montgomery, of Philadelphia, also did this operation, but the result was unfavorable. In his case pus was found in the uterine sinuses. Noble advocates hysterectomy in those cases in which the infection is limited to the uterus, when in spite of thorough curettement of the uterus, together with copious irrigation of the utero-vaginal canal, and the employment of proper systemic treatment, the infectious process increases in severity. These measures should be continued for twenty-four or forty-eight hours; the pulse, temperature, stomach, general condition, and *morale* being the best guide in deciding for or against the operation.

In the *Medical Record* of May 2nd, this year, Dr. Alfred B. Carpenter, New York, reports a successful case of vaginal hysterectomy for sepsis due to retained decidua, performed on the sixth day after a miscarriage. He advises the operation after a second chill has occurred and there is no longer any doubt as to the diagnosis. All of us, I fancy, can scarcely agree to that proposition.

GENERAL INDICATION.

It will be noticed that, so far, I have not said anything about the medicinal treatment of these cases. Antipyretics, especially the coal-tar products, are prescribed almost every day as soon as the temperature begins to go up—certainly as soon as it reaches 100° or 101°. They *may* succeed in bringing down the temperature, but the sepsis remains. *It* is not affected, the seat of the disease has not been touched, and the false lowering in the temperature only serves to mislead, and valuable time is lost. If *less medication* and *more local attention* were given, our records would be better. The use of alcohol also in the early stage is not advisable. Purgatives are indicated in every case having the faintest suspicion of sepsis. I usually begin with six or eight grains of calomel, and, after

that, sulphate of magnesia in sufficient quantity to produce three or four evacuations each day. For the reduction of the pyrexia I would suggest the use of the head and abdominal coil, or free sponging, in preference to antipyretics. After the disease is well established, local treatment is not lost sight of. I believe there is little hope for the patient unless the source of the poisoning is attacked by local measures. When this has been done, constitutional treatment is of the utmost importance; it is the only means of treatment left. Alcohol in large quantities, free feeding, quinine, strychnine, etc., are mainly to be relied upon.

Theoretically, the staphylococcus antitoxin should be of use in these cases. Whether it will become so practically remains to be seen.

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ADENOMYOMA OF THE ROUND LIGAMENT.

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ISOLATED cases of adenomyomata of the uterus have been from time to time reported, and recently our interest in these cases has been awakened by the excellent work of v. Recklinghausen, "Die Adenomyome und Cystadenome der Uterus und Tubenwandung," and within the last few months we have had two cases in the Johns Hopkins Hospital.

While adenomyomata of the uterus are not so rare, similar tumors of the round ligament have apparently never been reported.

Leopold described a cystic myoma of the round ligament, and, after carefully examining the tumor microscopically, came to the conclusion that the cyst cavities were dilated lymph spaces.

Aschenborn, in a patient with phthisis, found a tumor the size of a walnut lying in the inguinal canal and springing from the round ligament. It was a thick-walled cyst, and contained clear, transparent fluid. The microscopic appearances were not described.

Coulson had a case closely resembling that of Aschenborn. Roustan describes a case observed by Duplay. Situated over the external ring was a tumor twice the size of a man's fist. This, on section, resembled a cystic testicle. Microscopically the solid portions consisted of non-striped muscle, adipose, and connective tissue. Some of the cyst-like spaces were traversed by trabeculae. None of the cavities presented any epithelial lining. The tumor was a myoma undergoing degeneration.

The above are the reported cases which at first sight might bear some semblance to the case I report.

CLINICAL HISTORY.

L.N., æt. 37, admitted in the service of Dr. Kelly, Oct. 18, 1895.

The patient has been married thirteen years; had one instrumental labor seven years ago. Her menses commenced at fourteen, and were regular until the birth of the child, since which time they have occurred every three weeks, have been very copious, and have lasted from four to

five days. The latter part of each period has been accompanied by a good deal of pain, which persists for several days after the flow ceases. Last menstrual period two weeks before admission.

Family history. Her father died of paralysis; one aunt and her grandmother died of carcinoma.

Present trouble. About eight years ago the patient noticed a slight swelling in the right inguinal region. This has gradually enlarged, especially during the last two years. She has experienced severe cutting pain in the nodule. The pain radiated to her back, and was most severe after exertion or at the menstrual period. The patient is debilitated; her appetite is moderate; bowels regular. She has a thick white or yellowish leucorrhœal discharge. This is non-irritative, and is not offensive.

Vaginal examination is negative.

The mass occupies the upper part of the right labium. It is irregularly ovoid, and is firmly fixed in the deep tissue; it is, however, movable to the extent of 1 cm.

Operation by Dr. Kelly, Oct. 19, 1895. An oval incision was made over the site of the nodule. The mass was freed laterally and posteriorly. Above, it was closely connected with a band of tissue 1 cm. broad. This proved to be the right round ligament. The round ligament was traced upward to the internal ring. Midway between the external and internal ring it contained a nodule 1 x .6 cm. in diameter. The round ligament was pulled down, clamped, and cut off at the internal ring. Several enlarged lymph glands were then dissected out. The pillars of the ring were brought together by silver wire sutures. The round ligament was sutured into the canal. The canal throughout its entire extent was closed by mattress sutures of silver wire. The incision was then closed with catgut. The patient was discharged on November 3.

ANATOMICAL APPEARANCES.

Pathological No. 928. The specimen consists of a piece of tissue 7 x 4 x 3.5 cm. One surface of this is covered by normal skin, the underlying tissue is composed of fat, embedded in which is an exceedingly firm nodule 3.5 x 3 x 2 cm., Fig. 1.

This nodule on section is composed of interlacing bundles of fibres which form a dense network. Scattered throughout the nodule are many small irregular, pale, translucent, homogeneous areas. On examining the specimen after hardening in Müller's fluid, some of the homogeneous areas are found to contain round, oval, or irregular spaces. Accompanying the specimen are several lymph glands, one of which is lx. 8 cm.

HISTOLOGICAL EXAMINATION.

The nodule is to a great extent composed of non-stripped muscle fibres which wind in and out in all directions, but do not show any concentric

arrangement. In many places the muscle fibres are swollen, and the cell protoplasm contains large quantities of yellowish-brown granular pigment. At several points the muscle has undergone hyaline degeneration. This is especially noticeable around blood vessels. The blood supply is abundant. Scattered here and there throughout the muscle substance are small islands of adipose tissue. Traversing the nodule in all directions are glands, Fig. 2. Some of these are small and round on cross-section, others are cut lengthwise. These glands are surrounded by stroma similar to that of the uterine mucosa. It would be impossible to distinguish some of these from uterine glands. A few of the glands present slight dichotomous branching. Some of the glands contain round masses of protoplasm, scattered throughout which are several nuclei. These giant cells appear to be cross-sections of tufts of epithelium.

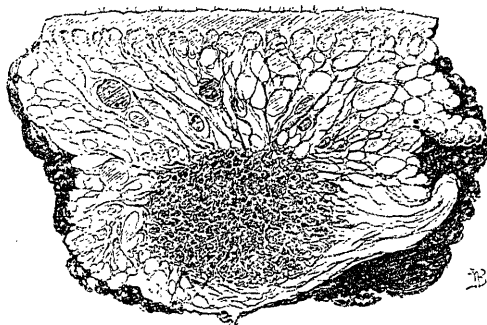


FIG. 1.*—Natural size. Longitudinal section of the tissue removed. The upper portion is skin, and the greater part of the specimen consists of lobules of fat. The round or oval dark areas in the fat are hæmorrhages. Situated in the adipose tissue is the tumor, which consists of muscle bundles. Scattered here and there throughout the muscle are round or irregular dark spaces; these represent the dilated gland cavities. Running into the myoma from all sides are strands of connective tissue.

In many places the glands present a peculiar arrangement, and correspond to v. Recklinghausen's pseudo-glomeruli. These pseudo-glomeruli consist of stroma resembling that of the uterine mucosa. They contain numerous capillaries, and they may have one or more glands situated in their depth. In some places there is hæmorrhage into their stroma. The pseudo-glomeruli are half-moon-shaped, cone-shaped, or irregular in contour. They are covered by one layer of cylindrical ciliated epithelium. What corresponds to Bowman's capsule consists of a layer of cells resting directly upon the muscle fibres. The cells of the capsule opposite the convexity of the glomerulus are almost flat; on passing off laterally they are seen to be cuboidal or cylindrical. The cells of the so-called capsule

*We are indebted to Dr. Henry M. Hurd, editor of the Johns Hopkins Hospital Bulletin, for his kindness in placing these cuts at our disposal.

are directly continuous with those of the pseudo-glomerulus. The space between the capsule and the glomerulus may be empty; many, however, contain desquamated epithelial cells, some of which are vacuolated and contain brown granular pigment. Numerous spaces contain red-blood corpuscles. On tracing one of the spaces laterally it is found to be directly continuous with the lumen of a gland. The capsule forms one wall of the gland and the pseudo-glomerulus the other, Fig. 2. In other words, the space between the capsule and the so-called glomerulus is nothing more than a dilatation of the gland cavity. In numerous places the gland



FIG. 2.—Sixteen times enlargement of a portion of the adenomyoma. The specimen consists chiefly of non-striated muscle fibres. In the right lower corner are masses of fat cells, and near the left lower corner are several fat cells. In the vicinity of the left upper corner is a pseudo-glomerulus; this is composed of stroma, scattered throughout which are cross-sections of several glands. The surface of the glomerulus is covered by one layer of cylindrical epithelium, and its capsule is composed of one layer of cells which in places are cuboidal or almost flat. The cells of the capsule have practically no underlying stroma, but lie directly on the muscle fibres. The space between the pseudo-glomerulus and the capsule is, on tracing it to the right, seen to be continuous with a gland cavity, and is nothing more than a dilated portion of the gland. Above and to the right of the pseudo-glomerulus are cross-sections of two glands, below it are several longitudinal sections, one showing dichotomous branching. All of the glands are surrounded by stroma, which separates them from the muscle.

epithelium on one side is found to be cylindrical, on the other side cuboidal or almost flat. On examining this more closely it is found that where the epithelium is separated from the muscle by a moderate amount of stroma it is cylindrical, but that where the epithelium rests directly upon the muscle it is invariably cuboidal or flat.

A few small glands are seen lying directly between muscle bundles. Extending into the myomatous growth from the periphery are numerous bands of connective tissue. The adipose tissue surrounding the myoma shows considerable hæmorrhage. The skin covering the surface of the

specimen is normal. The lymph glands, apart from being somewhat swollen, are normal.

Unfortunately we are not able to obtain the smaller nodule of the round ligament for examination, and cannot say whether it was an adenomyoma or not.

From a clinical standpoint the excessive pain in the nodule at the menstrual period is significant. It leads to the belief that there was some definite sympathetic relation between the uterus and the nodule in the round ligament.

Both v. Recklinghausen and I considered adenomyomata of the uterus non-malignant, and the fact that the nodule in this case existed for eight years and increased very slowly, and at the operation showed no evidence of malignancy, strengthens our belief that these tumors are benign.

The only case in the literature that throws any light on this case is the one reported by A. Martin. A patient, æt. 70, consulted him about a rapidly growing tumor. He opened the abdomen and removed twelve litres of chocolate-colored fluid from a tumor which presented at the incision. This growth sprang from the left round ligament, being connected with it by a pedicle. Pommorsky, who made the microscopical examination, found that the cyst containing the chocolate-colored fluid had very thin walls, and that its inner surface was in places covered by clots. The pedicle of the tumor contained several small cysts which were filled with clear fluid, and which communicated with one another. One of these cysts was lined by low cylindrical ciliated epithelium. Martin says that in this case the structure and contents corresponded to those of tumors arising from the parovarium.

ORIGIN OF THE GLANDS.

The glandular elements in our case correspond very closely to those found by v. Recklinghausen in adenomyomata of the uterus. In those cases he was able to trace a marked resemblance between the tumor glands and remains of the Wolffian body, and came to the conclusion that the glands were derived from this source. While admitting the probability of the glands in our case being due to remains of the Wolffian body, we cannot, from their striking resemblance to those of the uterine mucosa, and from the fact that their stroma resembles that of the mucosa, refrain from suggesting the possibility that they may be due to an abnormal embryonic deposit of a portion of Muller's duct.

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ANEURISM OF THE AORTA COMMUNICATING WITH LEFT AURICLE.

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The infrequency of this condition gives added interest to this case. His history briefly is as follows :

R. R., aged fifty, born in Scotland. His family history is unexceptional. He left school at thirteen years of age and was an errand boy for two years. Then he became an apprentice to the watchmaking trade for six years, after which he travelled about for a few years. Then he devoted himself to athletic sports, especially footracing, on one occasion rupturing a muscle in the calf. Later he gave his time to golf, and the manufacture of the clubs, and this he has continued up to his present illness. About fifteen years ago he began to take stimulants in moderation, but says he has never drunk to excess, nor does his appearance indicate that he has.

He gives a history of good health until March last, when he got his feet wet, from which he took a severe cold. On April 1st he was at the golf links. It was cold and stormy, and he took a severe chill. The chest was poulticed, and next day he was better. Since then he has been troubled with shortness of breath and has lost strength. On account of this distress he was admitted to the Toronto General Hospital, May 8.

State on admission. He had an anxious expression, was anæmic ; lips were cyanosed. The breathing was shallow and rapid ; there was considerable cough, with expectoration of mucus. The expansion of the chest was poor. The præcordial impulse extended outwards to the anterior border of the axilla. The action of the heart was irregular and tumultuous. There was pulsation at the xiphoid cartilage. The abdomen was rounded and fairly tense, and contained considerable serum. The lower extremities were markedly dropsical.

In the lower part of the chest on both sides the percussion note was flat and the breathing sounds barely perceptible, probably on account of serous effusion into the pleural cavities.

There was a loud systolic murmur heard over the whole præcordial region and for some distance beyond it; also around to the back. There was no definite point of maximum intensity. The pulmonic second sound was accentuated.

The pulse was weak, and very irregular in rhythm as well as in frequency. The arterial coats were considerably thickened.

The urine contained no albumen. Its specific gravity was 1020, and volume somewhat below normal.

The liver was large, its lower margin being two-finger breadths below the costal margin.

Treatment did little to improve his condition. Salines were given in the morning to cause a free watery evacuation. Digitalis, strophanthus, diuretin, and strychnine were given in large doses, with alcoholic stimulants, but without improving the cardiac symptoms or relieving the breathing. Morphine was given at bedtime subcutaneously to quiet the irregular heart and give sleep, but it had no effect on the heart and gave but little rest.

His condition altered little; sometimes he was a little better and then worse again. On the 15th of June he was much distressed during the night, and died quite suddenly in the morning.

A post-mortem examination would not be permitted by the friends, but the heart was removed without their knowledge. It weighed nineteen ounces; the valves were fairly healthy, showing only some atheromatous change, but they were quite competent. In the aorta, just above the sinuses of Valsalva, were three small aneurisms. One projected to the right in front of the pulmonary artery and formed a pocket large enough to receive the end of the middle finger. A second one, of the same size, extended to the left, and communicated with the left auricle by an oval opening about 4 mm. in length. Its edges were smooth, and apparently covered by epithelium. The third was only rudimentary, was of a similar character, and projected backwards.

It is very much to be regretted that a full autopsy could not be obtained, as without that it is impossible to estimate to what extent the symptoms were due to the perforation of the aneurism into the left auricle. There is little doubt that to this was due to the loud systolic murmur present, as there was no valvular incompetence, unless due to dilatation of the left ventricle—relative incompetence. The ventricle did not seem sufficiently dilated for such a loud murmur to be produced; in any case, it would scarcely have caused so loud a murmur in the feeble action of the ventricle that would necessarily have existed. The general symptoms pointed rather to obstruction of the large veins just outside the heart than to the heart itself. There were the signs of marked, but not extreme, venous obstruction in the cyanosis, the dropsy and œdema, and the

enlarged liver. On the other hand, the lungs did not present the symptoms of the extreme engorgement that occurs from failure of the heart, especially in mitral regurgitation. In addition to this, there was the failure of treatment to effect any amelioration of the symptoms, a quite unusual history in a first attack of heart failure in chronic heart disease. In a case with similar though greater evidences of venous obstruction, and with a history much like the foregoing one in this hospital, under my care at the same time, there was found at the autopsy a large aneurism of the ascending aorta pressing on the large veins and producing the venous obstruction. It is probable that aneurism was the cause of the symptoms of venous obstruction in this case also, and that the opening into the left auricle did not cause much disturbance.

Selected Articles.

CHLOROFORM OR ETHER ?

BY JOHN FREEMAN, F.R.C.S. ED.,
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THE question of which is the best and safest general anæsthetic continues to be constantly brought under the notice of the profession by the frequent occurrence of deaths during anæsthesia. The fact that opinions are still so divided shows that a good deal can be said in favor of both chloroform and ether; but one thing stands out pre-eminently, and that is that when deaths do occur they are nearly always where chloroform has been used. It is also fairly evident that, so far, experiments on animals have not helped us much in coming to a right conclusion as to the safest anæsthetic to use for the human subject.

Chloroform. One of the great advantages of this agent, and, I believe, reasons, speaking generally, why so largely used, is the very simple way in which it can be given, even by one who has had very little experience in anæsthetics. It is also fairly pleasant for the patient to inhale, and in the great majority of cases it answers the purpose admirably; but these advantages are counteracted by the treacherous way it acts in some instances.

A few of the deaths reported lately are good illustrations of the different ways in which chloroform appears to kill. Some of the patients were obviously not fully under the anæsthetic, as they were said to have "struggled, evidently feeling the pain," and immediately afterwards the heart and respiration stopped. Others, in going under, struggled violently and suddenly died. Another died just after he had been lifted from one place to another; while another succumbed apparently because the chloroform was administered to him whilst he was sitting upright.

It is not my intention to attempt to criticize the method in which the anæsthetic was given in these cases, because I think the whole circumstances should be taken into account. For instance, the nature of the

operation may demand that the patient's head be raised, or it may be quite necessary to lift him from one place to another. There is one point I should like to touch upon in connection with these cases, and it is that in those cases which died after struggling it is almost invariably suggested that they died from an overdose of chloroform brought about by the inhalation of a large quantity of the anæsthetic in the deep inspirations that occurred between and after the acts of struggling. To say this in any case is to throw considerable blame upon the anæsthetist, as it means that he gave the chloroform in an unscientific if not a reckless manner. That it is possible for a patient to take an overdose in this way no one is likely to deny ; but that it is the probable cause of death is, I think, very doubtful. These deaths from struggling have happened in the hands of experienced anæsthetists, who must have been well aware of the fact that any rash pushing of the drug at this stage was particularly dangerous, and there is very little doubt they took every care that no chance of overdose was given.

There is another way of explaining these cases. When a patient struggles he always holds his breath, and it is generally understood that any obstruction to breathing, whether the chloroform is being given at that particular moment or not, is very likely to impede the heart in its action. If the breath is held for any particular length of time the pulmonary circulation and the right side of the heart become engorged, and in this way the heart's action is interfered with. The heart, thus working under difficulties, now has another strain thrown upon it by the violent exertions of the struggling patient. It has been noticed many times that the heart will stand very little extra work in some patients during the inhalation of chloroform. The mere lifting of the patient from place to place, or sitting him upright, have been sufficient to cause death, even when the respiration had been apparently good ; but in these cases the respiration is embarrassed and the heart is already weakened by the over-distended condition of its right side.

Why, then, since we have two well-recognized dangerous conditions present, each of which has, in several cases, produced death, must we bring in another cause, viz., the overdose theory, before we can satisfactorily explain these accidents? This overdose theory has far-reaching results, and it is quite possible that it is accountable for some of the deaths that occur in other ways. One not infrequently hears of half an hour or more being taken to get a patient under with chloroform. All statistics show that the going-under period is one of the most dangerous ; anyone, therefore, who unduly prolongs this period must subject his patient to unnecessary danger, and this is brought about by the fear of giving an overdose. The same sort of an idea is shown, again, in those

cases which die apparently from syncope, through the operation having been commenced before the patient was sufficiently under. Hence, we read of the patient "moving, evidently feeling the pain"; or, again, "the corneal reflex was present." All such cases as these seem to show that the administrators of the chloroform wanted to prove that the patients did not have an overdose. Dr. Hewitt, in his book on anæsthetics, says "there is about as much risk from administering too little as from administering too much chloroform," and the reports of these cases appear to point to the correctness of his view. Again, if most of the deaths under chloroform are due to overdose, as some seem to think, how is it that accidents happened with those who used inhalers that measured the chloroform vapor given to the patient? and why is it that most of the fatalities did not occur in the practice of those who make a rule of using large quantities of chloroform in their administrations? For instance, one celebrated anæsthetist thinks nothing of using as much as two ounces for a small operation which can only last a few minutes. Have we to go to such as these to find the majority of fatalities? It is more common to read of death taking place after only a small quantity of chloroform has been used. One case was lately recorded where the patient died from half a drachm. In two cases it was noticed that the heart stopped before the respirations, and several others read as though death was due to primary cardiac syncope. Chloroform—in some patients, at any rate—appears to put the heart into a condition of instability; that is, in this state its action is affected, and may be stopped by circumstances which at no other time have such influence on it. Hence, interfered respiration, the act of vomiting, the feeling of pain, etc., have all, in their turn, brought the heart to a standstill.

The large number of deaths that have happened lately in children shows that chloroform is not such a safe anæsthetic for them as was once thought.

Since deaths are so frequent under chloroform, the question ought to be considered whether we are quite justified in employing this agent. It is true the chance of an accident happening in any particular administration is very small; but there is no doubt that in all those cases that ended fatally the anæsthetists thought the same thing, and probably some of them told the patients as much. There are some who, because they have given chloroform a great many times without any accident, have come to look upon it as a safe agent; but whilst they have had good luck, others quite as experienced have not been so fortunate; besides, as only a small proportion of patients die in this way, many anæsthetists will chance to have a large experience without a death. But at the same time, since we have no means of telling which patient will take chloroform well,

and which one will die from it—a strong, healthy man being just as likely to fail as a weak one—it is doubtful whether we are doing the best for the patient when we proceed to give this anæsthetic, unless there is some special reason why it should be the one selected.

Ether. This anæsthetic appears to be becoming more generally employed every year. There are several reasons why it is not used more. It requires an apparatus for its administration. Some might say this ought not to be a reason ; but, still, one may be called suddenly to give an anæsthetic where there is no ether apparatus, so chloroform has to be resorted to. Another reason is that ether is a little difficult to give. While one who has never administered an anæsthetic before will be able to get a patient under fairly easily with chloroform this is not usually the case with ether. Great difficulties may be met with by the beginner, and with a strong patient there would very likely be failure. Ether is not pleasant for the patient to take, and it is said not to relax muscles sufficiently in some cases. The most important objection, however, and the one which chloroform advocates use against it, is in its after-effects, particularly in regard to affections of the air-passages. These points about ether are worth some consideration. The difficulties connected with its administration are to a great extent preventable : it can be given in such a way that thirty or forty cases in succession will take it without there being struggling or any other difficulty ; and when one sees a very muscular man go under without moving so much as a finger, as is frequently the case, it is difficult to believe that he is experiencing any very great discomfort. The causes of struggling, etc., are sometimes fairly obvious, and may be due to too strong a vapor being presented to the patient at the commencement of the administration. The patient, finding it impossible to breathe this, although he may try his utmost, naturally begins to struggle for breath. Another cause is, that the ether is sometimes commenced when the bag is only half full of air, and some that is in it will very likely be allowed to escape, through the face-piece not being applied properly, so in a minute or so the bag is empty. The patient tries to take an inspiration, when the bag collapses, as there was so little in it. Under such circumstances, is it surprising that the patient, finding he cannot get air to breathe, should struggle ? Again, giving too much fresh air at an early stage of administration is a frequent cause of struggling. You may see a patient begin to take ether perfectly, and he may have got to the stage where consciousness is just being lost, the breathing being rapid and forcibly expanding the air-bag at each expiration. Should at this period the anæsthetist unguardedly allow two or three breaths of fresh air, trouble may be expected. A small quantity of fresh air at this stage will restore the patient's consciousness, and bring back sensitiveness to

his air-passages. On the inhaler being reapplied, the patient instantly holds his breath, he feels and realizes the pungency of the now somewhat strong ether vapor, and struggling, vomiting, and other troubles rapidly follow each other.

Such points as these make all the difference to the sensation experienced by the patient, and very little practice will prevent those who are learning to give anæsthetics from making such mistakes. This is why I hold that students should have the opportunity given them of learning to administer ether. When they get into practice they can please themselves whether they precede the ether with nitrous oxide, or use a little A.C.E. mixture until the patient is becoming unconscious. These are only details : the important thing is that they will feel capable of administering properly what in future will most likely be considered the safest anæsthetic. I do not agree with those who say that ether will not sufficiently relax muscles for some operations. I believe that continued rigidity of the muscular system depends much more upon how the ether is administered than upon any peculiar idiosyncrasy of the patient, and I never meet with cases in which I cannot for all practical purposes completely relax the muscles. All patients, in going under with ether, pass through a stage in which there is more or less rigidity. This passes off in most patients in a minute or two, but there are two classes of individuals—the alcoholic, and the very muscular—in which this may not happen. These remain rigid for some time ; and you may have the ether on full, and limit the supply of fresh air to a large extent, and yet the spasm continues. These are exceptional cases and they require different handling, but it is a mistake to think that nothing more can be done to get them under. The appearance of the patient in this condition gives one the key to the difficulty. The muscular spasm is a general one, and so the muscles of respiration are included. The result of this is, that the patient becomes deeply cyanosed. On giving a plentiful supply of fresh air to remove this cyanosis, one notices at the same time that the muscles begin to lose their rigidity ; so in these cases, when I find, after a good trial of ether, that the muscles do not relax, I remove the inhaler altogether, and let the patient have fresh air until his normal color returns and the rigidity begins to subside. Of course, this procedure brings the patient half round from his anæsthesia, and his reflexes become active again, so on reapplying the inhaler it is very necessary to begin with a weak vapor ; a strong one, by causing holding of breath, etc., would bring back all the rigidity in a very short time. I have not met with a case yet which failed to go under completely on this second attempt, but necessarily the time taken to get one of these patients under is much longer than in an ordinary case.

With regard to the after-effects of ether, there are only two worth con-

sidering. The first is vomiting. In comparing the vomiting that takes place after ether with that of chloroform, so far as I have been able to observe, there is very little difference between the two. More patients vomit after ether than after chloroform, but the ether vomiting generally passes off more quickly. That long-continued vomiting, going on into the second or third day, which now and then follows chloroform, is very rare after ether.

Now we come to the chief objection to ether as an anæsthetic; viz., that it sometimes produces affections of the air passages; were it not for the possibility that ether may indirectly cause death in this way, chloroform would have been doomed long ago. Unfortunately, it is impossible to speak definitely about this point, because there may be other causes to produce these troubles at the time of an operation besides the ether: I have made enquiries on this subject from those of experience, and the general opinion is that chest affections resulting from ether are extremely rare. Dr Hewitt, in dealing with this subject, says: "There has undoubtedly been gross exaggeration." My own experience is a little interesting. In 1,600 administrations of ether to patients of all ages, from six weeks up to eighty years (many of them, too, were in long operations lasting two or three hours), I have met with one patient who had some bronchitis after. This was a woman aged twenty-three, who, however, made a good recovery. The anæsthetic received all the blame; but I have also had a case in which bronchitis followed an operation in which chloroform was the anæsthetic. In this case, however, the bronchitis was looked upon as a sort of coincidence, or, perhaps, due to the exposure of the patient during the operation (one can make a very good guess as to what would have been thought if ether had been used in this instance). One other case I have met with gives a good illustration of how easy it is to blame ether for what it does not deserve. It was a child six years old. Its nurse had not noticed anything the matter with it, and there was nothing definitely wrong with the chest. I used A.C.E. mixture, and in going under the child coughed several times, which made the operator remark "the ether was making the child cough a good deal." For some days afterwards the cough was very troublesome, and was still supposed to be due to the "irritation of the ether"; but on the sixth day after the operation the child developed a characteristic "whoop" with its cough, and after this it went through the ordinary course of whooping cough. Ether has been given at this hospital, by others, many hundred times, without there being any other case in which it was suspected to have caused any chest trouble.

From such experience as I have had of these two anæsthetics, I cannot help thinking that a patient is in a much safer condition under ether than under chloroform. With ether, so long as the patient is kept suffi-

ciently under to prevent holding of breath, vomiting, etc., there is no trouble, and one can depend upon having a good warning if the patient is not quite satisfactory. Up to the present time, no patient under ether has ever given me the least anxiety. I cannot say this of chloroform. Sometimes, with a cause such as putting a gag into the mouth, or placing the strap of Clover's crutch round the back of the neck, and sometimes without any obvious reason, I have had patients who were in a condition of considerable danger. Because of this, I now make a rule of always using ether, unless there is some reason for its contraindication.

Sir B. W. Richardson, in a recent article on chloroform deaths, writes: "There are certain persons, say about 1 in 3,000, who at all times are ready to die." He has designated them "the morituri," and says they are the common victims of chloroform. If this is the real explanation of these deaths, it is one more reason why ether should be used, because whilst chloroform is constantly finding out these cases ether scarcely ever does so. If, as statistics often show, in 10,000 administrations of chloroform four such deaths occur, and in the same number of ether cases no such accident happens, there must be some very important difference between these two drugs.

I think we have not to look far to find the reason of the greater safety of ether. The full-bounding pulse of ether anæsthesia shows how much the circulatory system is stimulated by it, and the rapid and deep character of the breathing proves the same influence on the respiratory organs. So, if instead of using an anæsthetic, which has a tendency to depress both the respiration and the circulation (as chloroform has), we employ one that has a directly stimulating effect, we are much more likely to tide these "morituri" over their operations.—*The Bristol Medico-Chirurgical Journal*.

THE USE OF SALICYLATE OF SODIUM AND BROMIDE OF POTASSIUM IN THE IRRITABLE TEMPER OF CARDIAC DISEASE AND GOUT.

BY T. LAUDER BRUNTON, M.D., F.R.C.P., F.R.S.

AN irritable temper is a great misfortune, not only to its possessor, but to his friends and acquaintances. It may be natural or acquired, permanent or temporary. In many people an irritable temper is hereditary, but it may be brought very much under control by constant effort; while, in others, a temper which was not originally bad may become excessively irritable from lack of control, and the habit of yielding to it on slight provocation. But the temper may become irritable from various physical conditions, such as continued ill-health; or it may become temporarily irritable, as in gouty people shortly before an attack of gout. Not infrequently the explosions of temper which occur on very slight provocation are really due to the irritation produced by an accumulation of small irritations, bodily or mental, which have been gradually working up the patient into a state of excitement, and this feeling vents itself in an explosion quite out of proportion to the irritation which has simply let it loose, but has not really produced it. Thus, an unfortunate clerk or office-boy may be roundly abused for some very slight slip on his part, while the wrath poured out by his principal is really due to business worries or personal annoyances altogether unconnected with the subordinate's fault.

Continuous physical discomfort likewise tends to cause an accumulation of irritability, which finally finds vent in an explosion of temper, and an angry person sometimes blames himself for a moral wrong when he is really suffering from physical disorder.

The late Dr. Milner Fothergill used to tell the story of a very irritable old lady who frequently retired to her own room to pray for grace to control her temper, when what she needed, in Dr. Fothergill's opinion, was a dose of potash to relieve her gout.

In some gouty people twenty grains of bicarbonate of potash with ten or twenty of bromide of potassium, taken when the feeling of irritability comes on, frequently soothes it, and it has the further effect of lessening

the worry even in those who are not irritable. If this "temper powder," as I am accustomed to call it, be taken when some irritating occurrence takes place, or some depressing news is heard, it appears to take away the sting of either, so that, in place of being much worried and unable to turn his attention to other things, the person feels as if he had slept over the bad news, or the worry, and is able to obtain relief by turning his attention to something else.

Irritability of temper does not occur in all cases of cardiac disease, but it is by no means an infrequent symptom. The late Mr. Mark Morris, steward of St. Bartholomew's Hospital, one of the acutest observers that I ever came across, told me that when a patient came down to the office at eleven o'clock at night, and insisted on his immediate discharge from the hospital, he knew that it was a case of cardiac disorder.

Some time ago, a little girl, the daughter of a clergyman, began to show symptoms of unwonted irritability of temper. She was peevish, fretful, and quarrelled with her brothers and sisters. This was looked upon as sinful, and the child was reprov'd or punished accordingly, until one day a doctor, who was a friend of the family, happened to put his ear to her chest and discovered that she was suffering from severe mitral regurgitation, with dilated heart. In a paper published in *The Practitioner* in February, 1894, I mentioned that unwonted irritability of temper was sometimes the precursor of a headache, and in that paper I described the beneficial action of bromide of potassium and salicylate of soda in relieving headache. It occurred to me that in a case of heart disease the irritability might be relieved by the use of these drugs, and I have lately been trying them with a considerable amount of success. The subjective feelings of the patients were improved, and while they had previously denied any improvement under the use of digitalis and other cardiac remedies, even although this had improved their objective condition, they acknowledged, after a few doses of bromide and salicylate, that they felt better. The mode of action of the bromide is readily enough understood, as it is a simple sedative to the nerve centres. The mode of action of salicylate is not so clear, although the admirable researches of Dr. Haig seem to point to its action indirectly by the removal of uric acid.

Lessened irritability of temper is useful not only to the patient, but to his friends, and it is sometimes easier to treat patients by giving physic to their friends than by giving it to themselves, and frequently the other members of a family, friends, or of society have their appetites spoiled, their digestion impaired, and their pleasure in life destroyed by the irritability of one or two individuals, and anything that will lessen this irritability will do more to improve the health of the others than any amount of drugs can do themselves.—*The Practitioner* (English).

Progress of Medicine.

MEDICINE

IN CHARGE OF

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PHYSIOLOGICAL ALBUMINURIA.

Zeehuisek, of Amsterdam, reaches the following conclusions after examining the urine of 144 supposedly healthy individuals (*Centralblatt für Innere Medizin*, Jan. 11, 1896). His examinations were made from the standpoint of the clinician, and only that substance was regarded as albumin that was coagulable through heat:

(1) Many cases of albuminuria in young people (5 per cent. in the 144 cases) are caused by affections of the renal parenchyma.

(2) In another series of cases the albuminuria in the young is of extrarenal origin, *i.e.*, accidental (red blood corpuscles, leucocytes, spermatozoa, etc.).

(3) Functional albuminuria was not observed in the 144 cases examined.

(4) In the persons examined, no trace of a "physiological albuminuria" was discovered. (In 71.5 per cent. of the 144 cases the most delicate reagents failed to disclose the faintest trace of albumin.)—*Medicine*.

OXYGEN AFTER ETHER.

Dr. Theophilus Parvin writes in the *Medical and Surgical Reporter*, April 4, 1896, on the use of oxygen after ether. He says that, having observed the practice of Dr. Landau, of Berlin, who has his patients inhale pure oxygen after the ether has been withdrawn, he is convinced

that the practice is a most useful and valuable one. He says the immediate effects of inhaling are: the dusky hue of the face disappears, and the pulse becomes fuller and slower; there is also a more rapid recovery of consciousness. On the day subsequent to the operation he several times visited the patients at the physician's request, asking them as to the freedom from vomiting and pain, and the invariable reply was that they had neither. Some cases treated in Philadelphia made similar statements in regard to their experience of its effect.—*Medicine*.

ANIMAL LIFE WITHOUT BACTERIA IN THE INTESTINAL CANAL.

Two communications have recently appeared which demonstrate the fallacy of the idea that bacteria are essential to the proper digestion of foods in the stomach and intestine.

G. Nuttall and H. Thierfelder (*Ztschr. für Physiolog. Chemie*, bd. xxi., hefte 2-3) have described some exceedingly interesting experiments upon guinea-pigs. The young pigs were removed by Cæsarean section, with all aseptic precautions, and placed in a sterile case, which was protected perfectly from contamination from without. They were then fed upon sterile milk, and the cage was ventilated with air previously freed from all bacteria. Eight days after birth the animals were removed from the apparatus, killed, and examined with all antiseptic precautions. The microscopic examination of the intestinal contents in stained and unstained preparations showed an entire absence of bacteria. All roll-cultures, both aërobic and anaërobic, remained sterile—not a single colony was observed. The authors conclude that the presence of bacteria in the intestinal canal is not necessary for the life of guinea-pigs, nor for other animals or man, at least not so long as the nutriment is purely animal.

Nencki (*Vratch*, No. 7, 1896) also tries to prove that the action of micro-organisms is unnecessary for the normal process of digestion. He repeated the experiments above related, and concludes that micro-organisms in food are only hurtful, and not in any way beneficial.

THE CAUSE AND TREATMENT OF FLATULENCE.

Stephen McKenzie, in *The Practitioner* for July, 1895, gives a practical discussion of this subject. He states that a certain amount of air is swallowed in the process of mastication and deglutition, but this has never produced any of the phenomena associated with flatulence. This condition is also attributed to fermentation occurring in the stomach, but he does not believe the gas of flatulence is the result of food fermentation, for fermentative processes are too slow for the rapid development of the flatulence observed in dyspepsia.

Sir William Roberts has shown that a certain amount of flatulence may occur in acid dyspepsia through the action of an acid mucus upon alkaline saliva swallowed with the food ; but this is certainly a rare and minor cause in the production of gas. The regurgitation of carbonic acid gas from the duodenum may sometimes occur, and cause a flatulent distension of the stomach, but this is also a rare phenomenon, and only occurs when the gastric juice is hyperacid.

The writer, after discussing other theories, concludes that flatulent dyspepsia is due to a lack of gastric tonicity. In other words, the wall of the stomach being weak, flabby, and lacking in tone, suddenly dilates, and a volume of gas, which was before somewhat compressed, expands and fills out the enlarged viscus. The gas does not increase in quantity in the stomach, but only in volume. Associated with this gastric atony and perhaps dilatation, there is often a slight catarrhal condition of the stomach, which lessens the power of normal gastric digestion, and helps also to weaken the walls of the stomach.

The most important thing in the treatment of flatulent dyspepsia is to use remedies which will increase the nervous vigor ; hence tonics, and especially nerve tonics, are of the greatest importance. Nux vomica and strychnine should be placed at the head of the list. When there is gastritis associated with flatulent dyspepsia, with a coated tongue, the author gives bicarbonate of soda, strychnine, and spirit of chloroform, dissolved in a bitter infusion of calumbo or gentian—two ounces three times a day, between meals. If pain is associated with the flatulence, bismuth is added to the mixture, or a pill containing carbolic acid, valerianate of zinc and alum, is given. The compound asafoetida pill and the extract of belladonna are sometimes useful. In cases where pain is located lower in the bowels, Indian hemp, in doses of one-third of a grain, often answers better than any other remedy. For the violent spasmodic attacks which those sufferers often have associated with distension of the stomach and intestines, a mixture is given composed of equal parts of spirit of cajuput, aromatic spirit of ammonia, and spirit of chloroform ; a teaspoonful in a wineglass of water every half or quarter of an hour.

The writer does not believe in the use of charcoal in flatulence, nor does he place great stress on the value of bismuth. The purpose of his paper is, he says, to urge the importance of tonics and antispasmodics as the rational and effective treatment of flatulence by improving the muscular tone of the stomach.—*Medicine.*

RELAPSES IN SCARLET FEVER.

Dr. A. Griffith (*Medical Quarterly*, October, 1895) states that there is a proneness, during convalescence, to a return of the scarlatiniform rash

when the temperature of the body rises from any cause, and that these cases should not be mistaken for true relapses of scarlatina. Out of about two thousand cases admitted into the Fever Hospital of Nottingham "there were fourteen who have suffered from what we consider as second attacks of fever." After a brief description of these cases, Dr. Griffith concludes as follows :

If our argument is accepted, and these later rashes are to be explained as we have indicated (and the experience of other large isolation hospitals agrees, we think, with ours), the question arises whether the illness is due to auto-infection, being properly termed a "relapse," or "recrudescence," or whether it depends on the presence of other patients in the same ward, some of whom may have fever of a more virulent character.

The experience of medical men in private practice should help us as to the occurrence of relapses in scarlet fever patients nursed singly at home. Meanwhile, it is not difficult to imagine that in a ward containing twelve or twenty patients, even with two thousand cubic feet of air space each, the amount of infection is very large, the virulence being possibly increased by aggregation, as well as by the uniform temperature of about 60° F., nor to suppose that those who have had mild attacks from a small dose of poison in the first place, rather than from their insusceptibility, may be insufficiently protected against a larger dose of a more virulent infection.

If this is the correct explanation it would point to the inadvisability of aggregating fever patients in large wards, and still more to the fault of the usual plan of placing mild and medium, if not severe, cases in the same wards and in the hands of the same nurses. It is to be hoped that as the experience of isolation hospitals becomes more complete, and the facts gained in them are collected and compared, we may be able to come to some conclusion on a point of such practical importance.

THYROID EXTRACT IN GOITRE.

Before the Berlin Medical Society Dr. Stabel gave the results of his experiments, in Professor von Bergmann's clinic, in twenty-six cases of goitre treated by thyroid medication. These results agree with those reported from other countries, and are entirely favorable. The best effects were obtained by the use of the fresh gland, and Stabel believes that the tablets are not to be recommended, as he noticed bad effects from their use in several instances. He reports the case of one man, fifty years old, and quite obese, who took a large quantity of the tablets and who died several days after from severe mental symptoms. Post-mortem examination showed acute oedema of the brain, probably following thyroidin-poisoning. In two other cases mental alienation followed the use of the

tablets. Ewald stated, in the discussion, that he had obtained better results with the tablets than with the fresh gland, observing the most remarkable effects in young chlorotic girls suffering from parenchymatous goitre. Complete recovery, however, did not take place. He had noted but slight symptoms of thyroidism, as moderate albuminuria with casts, disappearing as soon as the treatment was suppressed. Mendel obtained no improvement in ten cases in which he had tried the tablets. He was obliged to abandon the treatment on account of the palpitation and emaciation which it caused. He did not regard it as suitable for cases of Basedow's disease, in which there is a tendency towards emaciation. Senator also stated that he had not met with success by the method, which could only be expected to aggravate the symptoms of Basedow's disease, if the latter depend on an exaggerated function of the thyroid gland.—*Universal Medical Journal*.

DIETING IN DYSPEPSIA.

Dr. Balfour, in his work on "The Senile Heart," gives the following rules for dieting, which are applicable in many cases of dyspepsia, as well as in those suffering from weak heart :

- (1) There must never be less than five hours between each meal.
 - (2) No solid food is ever to be taken between meals.
 - (3) All those with weak hearts should have their principal meal in the middle of the day.
 - (4) All those with weak hearts should have their meals as dry as possible.
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INTESTINAL FERMENTATION.

In a study of the various foods as to their putrefactive tendencies, Gilbert and Dominici are quoted as experimenting with milk upon a healthy man. Two and five-tenths litres of milk were given daily for five days. But before beginning with the milk diet the fæces showed 67,000 bacteria per milligram. On the second day of the milk diet the fæces showed 14,000 bacteria ; on the fifth day, 2,500. By the use of sterilized milk the number was still more reduced. From this the inference is drawn that milk is the ideal diet in typhoid fever and other enteric diseases, it being less fermentative than meat and other albuminous materials.—*Texas Medical News*.

OBSTETRICS

IN CHARGE OF

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RUPTURED ECTOPIC GESTATION (?)

At the meeting of the Philadelphia Obstetrical Society Dr. M. Price reported the case because of its interest in the direction of abdominal surgery. A diagnosis had been made before I reached the patient. It seemed to be a clear extra-uterine pregnancy. Two months had passed without periods. I could not get any previous history of trauma. If I had known before what was told me after the operation, I should have had a perfectly clear idea of what I had to deal with.

She had a swooning spell with all the symptoms of hæmorrhage on Saturday night; Sunday morning this occurred twice; absolutely pulseless; could not count at wrist; very little at neck. I found a large mass in Douglas' cul-de-sac; the patient's weight at least one hundred and forty to one hundred and fifty pounds. The only absent symptom was the want of prominence of the abdomen. Nothing really prominent either to show that there was mere fluid or a collection of blood in the abdomen at all.

I recommended at once section for her relief, and told the husband we had a case of extra-uterine pregnancy to deal with. There was no question in my mind but that blood was in the abdomen. On opening her, I dropped my fingers into the abdomen and found a pregnant uterus, and, going behind the uterus, I found a small tumor in Douglas' pouch, surrounded with a film of adhesions, with some inflammation or peritonitis. I ligated and put her to bed. I thought the specimen might be extra-uterine, but found it to be a sloughing dermoid, a little dermoid which had undoubtedly been injured. Two weeks before she had been thrown from a carriage and had a number of swooning spells.

She made a beautiful recovery, without any bad symptoms whatever, and the pregnancy is going on to term nicely. The case so closely simulated rupture of extrauterine pregnancy, with all the accompanying symptoms in regard to weak pulse, tumor masked behind the uterus, that I had no doubt it was one.—*Amer. Gyn. and Obst. Journal.*

PUERPERAL SELF-INFECTION.

Dr. Chas. Jewett, in a paper read before the New York State Medical Society on this subject, concludes as follows :

There is no clinical proof that puerperal infection can occur from normal vaginal secretions.

All childbed infection in women previously healthy is by contact.

Prophylactic vaginal disinfection as a routine measure is unnecessary, and even in skilled hands is probably injurious.

Its general adoption in private practice could scarcely fail to be mischievous.

In healthy puerperæ delivered aseptically post-partum douching is also contraindicated.

These rules must hold good in the simpler cases of manual or instrumental interference in which the uterus is not invaded.

A purulent vaginal secretion exposes the woman to puerperal infection.

In the presence of such discharges at the beginning of labor the vagina should be rendered as nearly sterile as possible.

Concentrated antiseptic solutions should not be used, and the process should be conducted with the least possible mechanical injury to the mucous surfaces.

In case of highly infectious secretions the preliminary disinfection should be followed by douching at intervals of two or three hours during the labor.

Sterilized glycerin or other suitable material may be used to restore the proper lubrication of the birth canal.

The safest and most efficient means for correcting vicious secretions is a mild antiseptic douche, repeated once or more daily for several days during the last weeks of pregnancy.

It is the duty of the obstetrician to know before labor the amount and character of the vaginal discharge.

Clinically, the amount of the discharge, its gross appearance, and that of the mucous and adjacent cutaneous surfaces, usually furnish a sufficient guide to the treatment.

Probable unclean contact within twenty-four or forty-eight hours before labor is an indication for prophylactic disinfection.—*American Gynecological and Obstetrical Journal.*

PUERPERAL SEPSIS.

Is hysterectomy for puerperal infection justifiable? R. R. Kime. Puerperal infection is of two general varieties, viz. : (1) Putrid infection, or sapræmia. (2) Septic infection, or septicæmia. The first is a local infection due to decomposition of the uterine contents by putrefactive bacteria only, without migration of the bacilli, not contagious, non-progressive by invasion, due to absorption of ptomaines, not inoculable. In sapræmia remove the putrid material from the uterine cavity, irrigate, disinfect, drain, and ninety-nine per cent. of the cases will recover. Hysterectomy would relieve these cases, but it would be criminal to sacrifice the generative organs when such cases can be treated more successfully and with fewer deaths by less heroic measures. The second class is due to germ development, their rapid migration and invasion of new tissue, even entering the general circulation; if at first local it soon becomes constitutional, highly infectious, and inoculable from case to case. The septic germs soon extend beyond the endometrium, invading its muscular structures, the lymphatics, the blood vessels, etc., and cannot be removed by ordinary surgical measures, and it is very doubtful if hysterectomy could completely remove the infected tissues in severe cases. If any foreign substance is in the uterus remove it with the forceps, wounding the endometrium as little as possible; irrigate the uterine cavity thoroughly with an antiseptic solution, and introduce a drainage tube of as large a size as the uterus will admit. Repeat irrigations and cleansing of the drainage tube at least once or twice in twenty-four hours. Give salines and calomel if needed, with systematic use of quinine, strychnine, tonics, and good nourishing diet. This treatment, properly carried out, will save more lives than the combined use of the curette, tampon, and hysterectomy. Hysterectomy has a limited field of usefulness in septic metritis, multiple abscesses in the uterine wall, and thrombo-phlebitis, if it is possible to be positive in the diagnosis; but in doubtful cases drainage is to be preferred.—*American Journal of Obstetrics*.

PERIPHERAL NEURITIS IN PREGNANCY.

Dr. George Elder read a paper on this subject before the Edinburgh Obstetrical Society. He had recently seen two cases, both in multiparæ; both came on about the sixth month. The symptoms began with tingling and shooting paræsthesiæ, which gradually increased until the shooting pains and feelings of pins and needles were very severe and disturbed health. In both they were chiefly in the hands, but in one of the cases also in the feet. Sensation was affected in both cases to some extent, but there was little or no paresis, although, owing to loss of sensation, no fine work requiring careful co-ordination could be done by the hands. In

neither case could any other cause of neuritis be discovered—alcohol, diphtheria, influenza, pneumonia, albuminuria, glycosuria, typhoid, lead, etc., being excluded. Both began to recover immediately after delivery, and recovery was pretty rapid—in one case in three or four weeks, in the other in three to four months. There could be no doubt, he thought, that the gravid state was the exciting cause of the neuritis. The number of cases of peripheral neuritis, evidently due to pregnancy, reported were very few (he could only find eight cases in all); and nearly all of these had been preceded by severe vomiting, and all had been very severe cases. He was inclined to believe that the cases of peripheral neuritis in pregnancy of a mild type must be very much more common than one would expect from the number of cases reported. That vomiting was not necessary to produce the condition his cases showed, and it was just possible that the vomiting might be due to the same cause as the neuritis, and to be only a concomitant symptom. The neuritis was evidently toxæmic in origin, though there was no evidence as to what the exact nature of the poison was. Some recent writers were of opinion that some of the cases of peripheral neuritis found during the puerperium had really commenced during pregnancy. If the symptoms got very severe it would be one's duty to terminate the labor, as after delivery recovery set in.—*British Medical Journal*.

PUERPERAL FEVER TREATED BY ANTI-STREPTOCOCCUS SERUM.

Mrs. G. A., aged 23, a primipara, was delivered of a large male child on March 19, 1896, at 5.45 a.m. Her labor was normal, the presentation cranial, L.O.A. throughout. More Madden's short straight forceps was applied to control and aid the passage of the head over the perinæum, which escaped rupture. Soap and hot water, the use of the nail-brush, bichloride of mercury for the hands, and creolin for the instruments and as a lubricant, comprise the antiseptic precautions taken. The after-treatment, however, was such as is ordinarily carried out in the homes of the working class.

For some days all went well, and the morning and evening temperatures were normal. On visiting her on March 26 I found her condition unsatisfactory, and was informed that she had not felt so well on the previous day, when she had shivered. Her condition resembled very bad influenza. There was no abdominal pain or tenderness, and no fœtor of the lochia from first to last.

That evening she had a douche of bichloride of mercury, 1 in 1,000, and this was repeated twice daily. Sulphate of quinine, gr. v., in hydrobromic acid was given every four hours. The temperature, 103° to 104.5° F., did not yield to treatment.

On March 29 I was compelled to stop the quinine on account of cinchonism. Biniiodide of mercury, gr. $\frac{1}{12}$, every four hours was substituted, and the intrauterine douching with this same antiseptic continued three times daily. The temperature was 105° , and the pulse 120° F.

On March 30 Dr. W. L. Reid saw the patient at 11 a.m., and agreed as to the diagnosis. On examination the uterus and appendages were normal. There was a slight transverse laceration on the posterior vaginal wall one inch from the vulva—the probable site of infection. The temperature was 102° F., and the pulse 98. From Mr. D. Watson, chemist, Govanhill, I had that morning procured a 20 c.cm. phial of antistreptococcus serum (Burroughs, Wellcome & Co.), “guaranteed in good condition and free from microbes” by the signature “T. J. Bokenham,” dated March 4, 1896; and, with Dr. Reid’s approval, of this serum 4 c.cm. were injected in the evening at 10 p.m., when the pulse was 114, and the temperature 104.5° F.

On the following morning, March 31, the temperature was 100° F., the pulse 96. The patient had slept soundly all night, and was very much brighter, feeling happier and stronger. None of the biniiodide was given through the night. Tincture of nux vomica *im m* 20 doses three times a day was now ordered instead, as recommended by Dr. Reid. After this her pulse and temperature remained practically normal, and her recovery was uninterrupted.

The beneficial effect of the serum was very marked; the change for the better was so abrupt that it resembled very much the crisis of a lobar pneumonia. On the fifth day after the injection she sat up in an armchair for an hour to have her bed made, and by the tenth day ventured to go outside and take a walk. No bad symptom, locally or generally, followed the use of the serum; its influence was only for good.—*Henry L. G. Leask, M.D., Glasgow, in British Medical Journal.*

THERAPEUTICS

IN CHARGE OF

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ANIMAL EXTRACTS.

Dr. Horatio C. Wood presents a very just *résumé* of the present condition of this subject. After stating that there is neither reason nor science, nor yet good clinical observation in support of the value of any of the drugs used by isopaths, he gives a very scientific presentation of the present views in regard to the therapeutic use of these substances. The ductless glands form some substances which have relations with all the tissues, and which modify everywhere protoplasmic movements. We have a firm, scientific foundation for the use of thyroid extract in myxœdema. In hypertrophy of cicatricial tissues, simple goitre, and obesity, it should be tried; in exophthalmic goitre it does harm. Splenic extract has apparently cured one, and much benefited two others, of the last-named conditions. In Addison's disease sometimes benefit is obtained from the use of glycerin extract of suprarenal capsule. There has been no great success from the use of extracts of bone-marrow and of the spleen in leucocythæmia. There is sufficient evidence to warrant the use of medullary glycerine in cases of severe anæmia. The antitoxins have been used in tetanus, diphtheria, erysipelas, and in other infections. In one case of tetanus, which had a fair chance of recovery under the older treatment, death took place from exhaustion, with a rapid rise of temperature, suggesting that this result was referable to the antitoxin. As for diphtheria, the value of the treatment has been sufficiently shown, so that every conscientious physician should use this just as much as he would quinine in malaria. Of course a Klebs-Loeffler bacillus antitoxin is useless against a streptococcus toxin, and in many (and perhaps most) cases death results from streptococcus infection. Theoretically, then, the two antitoxins

should be used in most cases of advanced diphtheria. Marmorek has reported the use of the streptococcus antitoxin, and on the whole the reports of Pozzi, Dieulafoy, Kelly, Sevestre, Cuffer, and Bar have been favorable. In any case of septic infection a cultivation is rarely necessary to be made, for the clinical features, in most cases, are sufficient to distinguish the cases. An infection which is localized, produces freely of pus, has but little tendency to run, is usually due to a streptococcus; one which produces serous or ichorous, rather than purulent exudation, and rapidly courses along the lymphatics, or gives rise to erysipeloid symptoms, is the result of the labors of the streptococcus. — *University Medical Magazine*.

BROMOFORM IN PERTUSSIS.

Marfan (*Revue Mensuelle des Maladies de l'Enfance*, April, 1896, p. 177) contributes favorable testimony for this newest of the specifics in whooping cough, from an experience of forty cases. He believes it to be superior to antipyrine or belladonna. The formula that he employs is as follows: Bromoform, 48 drops; oil of sweet almonds, 20 grammes; gum adragante, 2 grammes; gum arabic, 4 grammes; cherry-laurel water, 4 grammes; and water to make 120 c.c. Mix first the bromoform and oil and shake vigorously; then add the other ingredients. A coffee-spoonful contains two drops of bromoform. For a child of five years of age he prescribes as a daily dose four drops for each year of the age; from five to ten years the beginning dose is twenty drops daily. These doses should be gradually increased two to four drops a day until they are doubled. Under six months the initial daily dose should be two to three drops; from six months to one year, from three to four drops. In all cases the daily dose should be given in three portions. While the results of this treatment are exceedingly satisfactory, the author has failed to observe shortening of the duration of the paroxysmal period, contrary to the experience of Stepp. — *American Journal of the Medical Sciences*.

THE ETIOLOGY AND TREATMENT OF OZÆNA.

Belfanti and DellaVedova gave the results of their researches on this subject, carried out at the institute of the Serum-therapy, in Milan. They regard the disease as undoubtedly of bacterial origin, and due to a bacillus identical with that of Loeffler in form and characteristics, but differing from it in a great attenuation of virulence, causing only œdemas and moist gangrene at the site of the injections in guinea-pigs. The micro-organism is found in the exudate in ozæna, in the depth and on the surface of the diseased mucous membrane, and gives rise to a chemical

change in the secretion and to atrophy of the mucous membrane and the bone.

In view of these facts, the authors decided to employ the antidiphtheritic serum in the treatment of the disease, and they give the details of 32 cases, 16 of which were cured, 7 almost cured, 5 improved, and 4 showing slow improvement. The uncured cases are still under treatment, and the authors look for successful results in these also. The method of treatment consisted in making injections of 10 cubic centimetres ($2\frac{1}{2}$ fluid drachms) of antitoxin every two days, or every day if possible, until about thirty injections had been given, the number varying according to the age, duration of the disease, and local and general reaction of the remedy. The changes produced were: (1) A turgescence and congestion of the diseased mucous membrane; (2) disappearance of the characteristic odor; (3) appearance of fluid exudate; and (4) disappearance of green crusts. These alterations varied as to the time of their manifestation and their intensity. The complications produced during the treatment were neither severe nor dangerous, though the authors recommend suspending the injections, until they disappear.

Bozzolo reported two cases treated by him with the antitoxin; the first, a girl thirteen years of age, with chronic ozæna of an exceedingly fetid character. The odor entirely disappeared after the fourth injection, but on suspension of the treatment it returned after some time. Three injections were then made and the odor again disappeared. Multiple subcutaneous hæmorrhages made it necessary to abandon the treatment. Soon after the girl developed measles. At the time of report the condition of the nasal cavities was excellent. The second case was that of a woman of forty-three years, in whom the bad smell disappeared after the fifth injection of serum. She was still under treatment at the time of report.

Gradenigo stated that he had treated sixteen cases of ozæna with the serum. In five of these the bacteriological diagnosis had been made by Belfanti. In all there had been an improvement, though the number of injections had not as yet been sufficient to cause complete cure. One case of purulent ozæna had been particularly benefited. He had noted a specific, elective action of the serum upon the diseased mucous membrane.—*La Settimana medica*, April 4, 1896.—*Universal Medical Journal*.

SURGERY

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THE FORMALIN TREATMENT OF WOUNDS.

If a watery solution of gelatin be allowed to dry in formalin vapor, the gelatin loses altogether its customary characteristics. It is no longer affected by hot or cold water, nor by steam, nor by acids, nor alkalies; and the formalin which has entered into combination with it is chemically inactive. Experiments upon animals, however, proves that by the action of the living tissues the combination is broken up and formalin set free. Further experiments upon pigeons and dogs revealed the fact that if formalin gelatin is ground to a fine powder, mixed with colonies of bacteria, (staphylococci, streptococci, chicken cholera) and introduced into the animal, the germs are unable to grow and the wounds heal without reaction.

This result is apparently due to the action of the freed formalin, an action which continues for some time—several hours probably—and therein lies an advantage of this new material over all the old antiseptic agents. Schleich (*Therapeut. Monatsch.*, February, 1896) asserts that with the help of this material every acute suppuration can be stopped in twenty-four hours, and every wound can be made to heal aseptically without further trouble. He has proved this by its use in 120 cases of acute suppuration, 93 aseptic wounds, 4 compound fractures, and 2 deep wounds of the scalp. In his experiments the principles of aseptic surgery were in all respects observed, except as to the wounds, which were only mechanically cleansed and thoroughly rubbed with the powder. In every case suppuration was stopped in twenty-four hours, and even the compound fractures healed without any fever. In fresh wounds the powder made with the blood a firm aseptic scab.

In order to be of service the powder has to be brought into contact with sound or inflamed tissue. In the presence of necrotic masses, or in the specific inflammations of syphilis and tuberculosis, it has very little effect. In order to produce a continuous supply of formalin vapor for the treatment of ulcers, etc., it is possible to digest the formalin by a pepsin-hydrochloric acid solution. The formalin-gelatin powder is first dusted on the wound, and then covered with a compress wet in a watery solution containing five per cent. of pepsin and three per cent of hydrochloric acid.

The powder is made by drying 500 grams of purified and dissolved gelatin in the vapor of 25 drops of formalin. The gelatin is then rubbed to a powder and preserved in the presence of a single drop of formalin solution.—*Medical News.*

PÆDIATRICS AND ORTHOPÆDICS

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TUBERCLE OF THE FEMALE GENITALS IN CHILDREN.

Eight cases illustrating this condition have been collected by Maas (*Archiv. f. Gynak.*, vol. xii., part 2, 1896). In the first case the Fallopian tubes and ovaries were diseased. Infection probably originated in the umbilicus, as tuberculous granulations were detected running from it over the peritoneum. The second was an instance of tuberculous disease of the intestines. Infection of the ovaries had occurred, the disease passing from the rectum. In the third, the genital disease was secondary to pulmonary phthisis. A fourth case was a true example of primary tubercle of the genitals. The fifth was identical in course and character with the second. The sixth was of special interest. A child, aged thirteen months, had vulvitis and tuberculous disease of the genitals. The mother was phthisical, and direct contamination must have taken place. In the seventh the father was tuberculous, and, as in the sixth, the disease began with vulvitis. The eighth patient had tuberculous pneumonia after measles, and a vaginal affection, also clearly tuberculous. The parents were healthy. The primary seat of disease remained uncertain. The tubercle may have been carried from the lungs to the vulva by the lymphatics, or more likely the child had touched the vulva with fingers soiled with sputum.

TREATMENT OF INFANTILE BRONCHITIS.

In *The Medical Record* (1896, xlix., 636), Renaut, of Lyons, advocates the employment of warm baths in the treatment of bronchitis in infants, and claims that by these means extension of the disease to the capillary bronchioles can be almost surely prevented. Whenever the rectal temperature rises to 102° F. the child is placed for five minutes in a bath of 100° F., the head being covered with a folded handkerchief. If there

are any symptoms of cerebral congestion, a stream of water the temperature of the room is poured on the head. A little champagne, or brandy and water, may be given while the child is in the bath. When taken out, he is quickly dried with warm towels and put back to bed. Frequently after the third or fourth bath, the fever falls, the râles diminish, and the affection loses its threatening character.

CHOLERA INFANTUM.

The following brief outline of treatment in this disease appears in the July number of *Pædiatrics*. Cholera infantum is the result of a profound and rapid poisoning from absorption of toxines produced in the intestinal tract, usually from the fermentation of food. Therefore the indications for treatment are not opiates, but the rapid elimination of these poisons by saline cathartics, abundance of pure water, washing the stomach, and high and frequent irrigations of the bowels with such stimulants as will enable the patient to overcome the poison already absorbed. The best stimulants are whisky, camphor, and musk. Whisky should always be diluted; camphor (one-fourth to two grains every hour) may be taken with glycerine and suspended in mucilage; and musk (one grain every half hour) can be suspended in mucilage. Jacobi recommends in threatening cases of heart failure strong coffee, hot or iced, according to circumstances; or the injection into the bowel through a long flexible tube of hot water with some alcohol, and one or more drops of tincture of opium.

SIMPLE DIARRHŒA.

The indications are to first remove by purgatives the irritating and decomposing contents of the intestines. This is best done by giving calomel in small doses, say one-tenth of a grain, frequently repeated, or by a full dose of castor oil.

The second indication is to withhold all food which would be likely to undergo fermentation and add to the existing toxæmia. Milk and other foods should be absolutely prohibited. The child should be allowed to take pure water quite freely. Barley water, to which a little white of egg or sugar has been added, may be given, and, later, whey may also be given.

Third. If ptomaines are thought to be present in the lower bowel it would be well to irrigate after each movement of the bowels, using a warm normal salt solution (1 dram. to one quart), about one pint at a time.

Finally, such drugs as retard fermentation, *e.g.*, bismuth subnit., grs. x., every two or three hours; or soda benzoate in four grain-doses in water every two hours.—J. Lewis Smith in *Pædiatrics*, July, 1896.

POLYARTHRITIS IN SCARLET FEVER.

In a paper read before the New York Academy of Medicine Henry N. Berg drew attention to the frequency with which inflammation of joints occurs as a complication of scarlet fever. It seemed, too, to occur more frequently in cases treated in hospitals than in those met with in general practice. Its development was not usually marked by any special rise of temperature, and it most often made its appearance during the stage of desquamation. For clinical purposes this polyarthritis might be divided into four varieties: (1) Cases in which the inflammation of the joints is not accompanied by serous effusion; (2) cases appearing as a simple synovitis; (3) cases in which the arthritis is at first simple, but subsequently becomes purulent; and (4) cases of suppurative arthritis with rapid destruction of the structures of the joint. The late development of this joint complication would seem to point to its being a secondary mixed infection, and from its much greater frequency in hospital practice he was disposed to think that there was a contagious element. While many clinicians looked upon this arthritis as rheumatic, and it had some points of resemblance to rheumatism, it differed from this disease in being more severe, and in not being commonly associated with endocarditis—at least there had been no endocarditis in the cases forming the foundation of this paper. Another reason for believing that this was not rheumatic in its nature was that the salicylates and other anti-rheumatic remedies appeared to exert no beneficial action upon it. Very frequently this scarlatinal arthritis was followed by more or less ankylosis, which, however, in most instances, yielded to proper passive motion and massage.

THE EFFECT OF PHOSPHORUS ON GROWING BONE.

In *Virchow's Archiv* (Bd. cxliv., 1896) Kissel records a series of experiments with phosphorus carried out on growing dogs. The phosphorus was given in the way usually adopted with children, in oil. He found that the toxic properties are much more pronounced than usually supposed, and that disturbance of digestion during its use, though apparently trivial, may have a fatal termination. Ten centigrammes per kilogramme of body weight caused symptoms of chronic poisoning, with marked atrophic changes where bone had been deposited. Six centigrammes per kilogramme hinders the normal development of bone; 3.3 centigrammes per kilogramme is the largest dose that can be given with perfect safety. In chronic poisoning with small doses there is marked fibrosis of the liver. No dose of phosphorus had any favorable influence on the growing bone.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

JOHN CAVEN. BA., M.D., L.R.C.P. Lond.,

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

AND

JOHN J. MACKENZIE, B.A.,

Bacteriologist to the Provincial Board of Health;

ASSISTED BY

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

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

HIBBERT HILL, M.B.,

Bacteriological Laboratory of the University Medical Faculty.

EXPERIMENTAL AMYLOID DEGENERATION.

N. P. Krawkow, of the Laboratory of General and Experimental Pathology of the Imperial Military Academy of Medicine in St. Petersburg (*Arch. de Méd. Expér. et d'Anat. Pathol.*, tome viii., 1896, p. 106), says that up to the present time the study of amyloid degeneration has been confined to post-mortem specimens in which the different degrees of the degeneration, together with the presence of other lesions, have rendered the stages of the process very indistinct. Experimental work on this subject has never been attempted, which perhaps explains our very limited knowledge of it. A few accidental cases occurring in laboratory animals have been reported, but the degeneration occurred in animals experimented upon with some entirely different object in view.

One of the first cases of this kind was reported by Hirschfeld, who found a diffuse amyloid degeneration occurring in a rabbit dead from the effects of a suppuration lasting six weeks, and caused by the inoculation of pus microbes. The microbes in this case were obtained from a man suffering from caries of the bones, and after whose death the kidneys were found to have undergone an amyloid degeneration. Bouchard and Charrin have described two cases of amyloid degeneration in rabbits subjected to repeated inoculation of the bacillus *pyocyaneus*.

Czerny has produced amyloid degeneration in two dogs by subjecting them to a long-continued aseptic suppuration, produced by repeated inoc-

ulation of turpentine, thereby proving that the amyloid change is altogether independent of bacterial action. He also found in the pus corpuscles and leucocytes of these animals, a substance apparently not glycogen, and giving the characteristic reaction for amyloid material with iodine and sulphuric acid, although failing to give the equally characteristic reactions with anilin stains. Since the presence of the substance accompanied amyloid degeneration, the possibility of its being an early stage of amyloid material which is carried to and stored up in the various organs is strongly suggested. This idea would imply that the amyloid change is an infiltration and not a degeneration.

This form of degeneration is very common in our larger domestic animals, in fowls and pheasants, and especially in the horse, where it occurs frequently in the liver, rendering this organ so soft and friable that the fatal rupture often occurs. In all these animals the degeneration is usually secondary to some chronic infectious or wasting disease.

With this series of cases of amyloid degeneration as a foundation the author has carried on a number of experiments with the object of studying the changes as they occur when their production is under the control of the observer. The animals were subjected to prolonged suppuration produced by repeated inoculations of *micrococcus pyogenes aureus*, this method being chosen as bearing the most direct relation to the common occurrence of amyloid degeneration in man after tuberculosis and syphilis when a mixed infection with the pus microbes has occurred.

Rabbits in good health were chosen and inoculated with constantly increasing quantities of a bouillon culture, beginning at first with $\frac{1}{2}$ c.c. Soon the animals would reach such a degree of immunity that they would scarcely react to 30 c.c. of a culture, 1 to 2 c.c. of which would have at first killed them. This gradual acquirement of immunity seemed to be the most favorable condition for the appearance of amyloid degeneration, animals succumbing to a few large doses rarely showing the change. The history of a single rabbit, as follows, will be a fair sample of the results obtained in the whole series :

Rabbit No. 1; weight, 1556 grammes. Subjected to four inoculations—1 c.c. for the first three times, 5 c.c. for the last. Died in six weeks, much exhausted; weight of body, 779 grammes. The last week the urine was acid and contained albumin; stools watery. Spleen shrunken, anæmic, soft, tearing readily, cut surface not showing the characteristic amyloid brilliancy; microscopic examination showed amyloid degeneration marked in the pulp and in the periphery of the follicles; giant cells containing amyloid presented marked accumulation of pigment; lymphoid elements contained no amyloid. Liver atrophied and anæmic; slight amyloid degeneration of intralobular capillaries; marked albuminoid degener-

ation of the liver cells. Small intestine: Walls thin, mucous membrane pale; marked amyloid degeneration of the villi and glands of Lieberkühn, principally in the capillaries and connective tissue. Kidneys: Traces of amyloid in *memorana propria* of the convoluted tubules. Suprarenal capsule: Traces of amyloid in medullary substance. No traces of amyloid in the abscess, nor in the muscles of the heart and trunk.

The amyloid material of the rabbits gives all the characteristics of the human amyloid, and when isolated seems to be the same chemically. The microscopic appearance of the organs, however, differs from that of man in the advanced stages. The spleen is generally soft and shrunken, the cut surface does not give the characteristic amyloid brilliancy; the liver resembles more an albuminoid degeneration.

In the animals experimented upon the degeneration seemed to begin in the spleen, often being very advanced here when not found in any other organ. This is apparently true in man as well. In rabbits the degeneration is more marked in the gastro-intestinal canal than in the kidney or liver, the salivary glands seeming to stand next in order to the spleen. The idea that the blood-forming organs are most invaded is not supported by these experiments, for the marrow of the bone, probably the most important of all, was never found amyloid. They, however, showed that it was possible to have an amyloid degeneration localized in a single organ or in a part of that organ, as the follicles of the spleen.

The degeneration was especially observed in the capillaries, arteriole-walls, and connective-tissue elements. The cells of the organs seemed never to be invaded, except those of the spleen. The presence of giant cells in the amyloid spleen is accounted for in different ways. The author is inclined to think that they absorb the amyloid substance as a body foreign and injurious to the organism. This function would imply that the resolution of amyloid material is possible, and although contrary to the general idea as obtained from clinical information, yet there is much to favor the supposition. Amyloid degeneration in various neoplasms has been observed in parts removed by operation, and later it has been found that the remaining material has disappeared. Litter has also found that fragments of amyloid kidneys placed in the abdominal cavity of animals are absorbed, and here giant cells containing amyloid are numerous.

IMMUNITY FROM SMALLPOX.

“Scientific Researches Relating to the Specific Infectious Agent of Smallpox and the Production of Artificial Immunity from this Disease” was the title of an address by George M. Sternberg, Surgeon-General of the United States Army.

The experimental evidence relating to the nature of the specific infectious agent of vaccine and of variola was reviewed ; also that relating to the genetic relation of cowpox, horse-pox, and smallpox ; and that relating to the production of artificial immunity by subcutaneous inoculations with vaccine lymph and by subcutaneous or intravenous injections of blood serum from immune animals.

The following conclusions were presented :

(1) Smallpox, cowpox, and horse-pox are generically related, being different manifestations of the same infectious disease in different genera of animals.

(2) The specific infectious agent of variola and of vaccinia has not been demonstrated. The extended experimental investigations which have been made indicate that it does not belong to the class of micro-organisms known as bacteria.

(3) Various bacteria are commonly found in the lymph from vaccine vesicles, obtained either from bovine animals or from man. Among these are the well-known pus cocci, and these micrococci are probably largely responsible for the erysipelatous inflammation and other unpleasant complications which frequently result from vaccination with such lymph.

(4) Lymph preserved in glycerin after a time becomes sterile, so far as the presence of bacteria is concerned, without losing its specific virulence.

(5) Immunity may be induced by subcutaneous inoculation of vaccine virus without the development of a vaccine vesicle ; and it is probable that the subcutaneous injection of lymph preserved in glycerin would give protection without any of the septic complications so common as a result of vaccination by the usual method.

(6) The blood serum of immune animals contains a substance in solution which destroys the specific virulence of vaccine virus when brought in contact with it.

(7) This substance is not present in sufficient amount to make the blood serum of immune animals available for the production of immunity in man (or for the treatment of variola). But it may perhaps be obtained in a concentrated form by chemical methods, and in that case would be likely to prove useful, and possibly specific, as a therapeutic agent in this disease.

(8) The immunity resulting from the subcutaneous injection of vaccine lymph, like that resulting from vaccination in the usual manner, is gradually developed and is not complete until the eighth day, depending, no doubt, upon a multiplication of the infectious agent in the body of the susceptible animal. On the other hand, the immunity resulting from the transfusion of a large amount of blood serum from an immune animal to

a susceptible animal is an immediate result of such transfusion.—*Medical Record*, May 9, 1896.

HYPOLEUCOCYTOSIS IN ACUTE TUBERCULOSIS.

Warthin (*Medical News*) has studied the blood of two cases of acute-general miliary tuberculosis, and found that his frequent estimations of the number of leucocytes confirms the statement of Cabot that the blood does not give us any aid in the diagnosis between typhoid and acute tuberculosis. In both cases there was pronounced hypoleucocytosis.—*University Medical Magazine*.

Editorials.

AN EXPLANATION.

OUR attention has been called to the fact that a recent article which appeared in THE PRACTITIONER relative to the *Dominion Medical Monthly* is so phrased as to be open to misapprehension, and we desire to put ourselves right in this respect. When we said that "advertisers will no longer be deluded by the cry of an official organ," we did not mean to imply that in the past there had been any delusion with regard thereto other than such delusion as might be labored under by those advertisers who might imagine that the connection which that journal formerly had with the Medical Council would make it more valuable as an advertising medium than it would otherwise be.

When we stated that the post-office department had declared that the journal in question was not a legitimate subscription journal, we referred merely to the fact that for the purpose of bringing themselves within the law as enforced by the post-office department, allowing subscription journals to be mailed post free, the publishers of that journal had been forced to alter their title page as formerly used by them, and to state upon the face thereof that their subscription price was \$1 per year.

We regret that our article was so phrased as to make this explanation necessary.

THE ONTARIO MEDICAL COLLEGE AND DR. SANGSTER.

WHEN a man neither means what he says, nor says what he means, it is somewhat difficult to understand him. Dr. Sangster, in his letter to *The Review*, to which we made reference in our last issue, says: "It was thought proper to suspend all further appeals to either the profession or the *public* until after a vigorous and sustained effort had been made to rectify existing abuses *constitutionally*. . . . To this end . . . the executive of the Defence Association consented to forego all aggressive action until after the close of the coun-

cil's session of 1897. If the efforts of the Defence members of the council are as futile in 1897 as they have proved to be in 1895 and 1896, the executive of the association will, in all probability, next July change its phase of expectancy for one of very decided activity. . . . Pending, then, the probable *renewal of hostilities* a year hence, when it would seem that some *startling disclosures* are likely to be given, and some *spicy strictures* made." . . .

In his letter, published in this issue of THE PRACTITIONER, he tells us he means nothing excepting that his party will first appeal constitutionally to the electorate; and, if that fails, will then get the Ontario Legislature. In connection therewith he also gives us an interesting and instructive lecture on our "province" as medical journalists, upon which we are now pondering with, we hope, becoming humility. This new programme is certainly a great improvement on the old one; and we note with pleasure that it contains no threat of an appeal to the public. Let us hope that Dr. Sangster now means what he says, and says what he means.

In *The Review* letter we find the following:

"Question—Have the Defence members of the council paid their so-called back dues?"

"Answer—No. Their arrearage was, and is, in each case deducted by the treasurer from their sessional allowance. To this they had no alternative but submission under protest."

This, we now understand, is not intended to encourage physicians to refuse to pay their assessment dues; it is simply a wail of despair from an unfortunate and injured man who has been compelled to pay a debt.

It may be very creditable and high-minded to endeavor to stir up strife between the "schoolmen" and the general profession, but what good is going to come from it? If those who teach in our medical colleges must needs be attacked, is there any reason why they are not entitled to ordinary courtesy? Would it be too much to ask Dr. Sangster to criticize in a reasonable way any specific acts of the "schoolmen" to which he objects instead of simply and profusely "swearing at large"?

THE DUTIES AND RIGHTS OF A HOSPITAL MEDICAL STAFF.

THE Board of Management of the Liverpool (England) Lying-in Hospital has recently had a serious conflict with its medical staff. We learn from the *British Medical Journal* that the board endeavored to

enforce a regulation under which each patient when admitted should come under the sole care of the matron-midwife, who would conduct all normal cases of labor, but might send for a member of the medical staff, if, according to her judgment, the case were abnormal. Another of its remarkable rules was that, under no circumstances, could the normal cases be treated as subjects for general observation for the purpose of compiling statistics or literary articles, or for instruction to students. The medical staff refused to submit to such rules, and resigned in a body.

On May 11 a large meeting of the medical profession of Liverpool was held, 215 being in attendance, when strong resolutions were passed approving the action of the staff, and pledging everyone present not to accept office in the hospital and not to render assistance to its officials. The female physicians of the city also supported the stand taken at this meeting. The *Journal* comments on this as a worthy example of unanimity. As a consequence the institution has now no medical staff, and the members of the board are roundly abusing the profession whose members are said to be "utterly regardless of common humanity," and guilty of "wanton cruelty." The *Journal* goes on to say that "these charges of cruelty and want of humanity are the last desperate attempts of the chairman and his friends to distract attention from their own blunders by throwing dust in the eyes of the public."

The *Journal* goes on to say that "the most significant point in the whole matter has been the desire displayed to surround the practice of the hospital with a kind of Chinese wall, from which no statistics and no information for the benefit of humanity should issue, and within which no instruction should be given except to a few aspirant midwifery nurses. This exclusion it has been attempted to justify by assertions that 'experiments' were made in the hospital. When looked into, the 'experiments' were found to consist in certain pelvimeter measurements, with a view of ascertaining what patients were likely to require instrumental help."

The following are the closing sentences of the *Journal* editorial: "The medical men of Liverpool, in fighting their own battle, have also been fighting the battle of the whole profession, and they have increased the value of the services rendered by the splendid example of unanimity which they have given. The conflict is a part of a greater conflict over a wider area—a conflict of which the end is not yet, but which can only be allowed to end in one way. True, the *casus belli* is not always the same; in one place it is the arrogance or false sentimentality of a lay board of management presuming to speak in the name of charity, in another the parsimony and self-seeking of club managers disguised under the name of providence, in another the frankly commercial schemes of a trading company to make a profit by sweating the doctors in their employ. The medical profession

is awakening to the necessity of asserting its rights against encroachments on every side. With a united profession, resolved on this vital principle to sink all minor differences and to forget all jealousies, the conflict need not be long nor the result doubtful."

THE BRITISH MEDICAL ASSOCIATION.

THE recent meeting of the British Medical Association, held at Carlisle, July 28, 29, 30, 31, was fully up to the standard, which, during late years, has been reached by that greatest of all medical societies. The most interesting feature, as far as Canada is concerned, was the acceptance of the invitation from the local branch in Montreal to hold the meeting of 1897 in that city. The *British Medical Journal* (August 1), in a leading editorial, cordially endorses the decision of the council, which, we are pleased to say, was unanimous. We take the following from the *Journal's* interesting article :

"The deputation which attended the meeting of the council of the association to make the formal request that the association should go to Montreal next year consisted of Dr. G. E. Armstrong, Professor of Clinical Surgery, McGill University, and surgeon to the General Hospital, Montreal, and Dr. J. G. Adami, Professor of Pathology in the McGill University, and Pathologist to the Royal Victoria Hospital, Montreal ; but these gentlemen, who represented the Montreal branch, were supported by Dr. I. H. Cameron, Professor of Surgery, University of Toronto ; Dr. A. B. Macallum, Professor of Physiology in the University of Toronto ; Dr. Peters, Professor of Clinical Surgery in the University of Toronto ; and Dr. Doolittle, Lecturer in Therapeutics in the University of Trinity College, Toronto.

Professor Armstrong and Professor Adami, in presenting the invitation to the council as representatives of the Montreal branch, promised that a cordial reception awaited the association in Montreal ; and Professors Cameron and Macallum, as representatives of Toronto, cordially endorsed the invitation of the Montreal branch in the name not only of Toronto, but of the Dominion.

The council accepted the invitation without a dissentient voice. Professor T. G. Roddick, the president of the Montreal branch, has been nominated as president-elect. Dr. Roddick is Professor of Surgery in the McGill University, and consulting surgeon to the Royal Victoria Hospital at Montreal. He represents Montreal in the Dominion^s Parliament, having succeeded Sir Donald A. Smith, now the High Commissioner of the

Dominion in this country. Professor Roddick is one of the leading surgeons of the Dominion, and is widely known both on account of his professional eminence and his social influence with all classes.

It will be remembered that this is not the first occasion upon which the wish of our Canadian associates that the British Medical Association should meet in Canada has been made known. Sir William Hingston, at the Nottingham meeting, when he delivered the address in surgery, and Dr. Osler, himself an old Montreal graduate, in a speech that will be remembered by all who were present at the Bristol meeting, have given public utterance to the desire on the part of our Canadian *confères* to welcome the association to the Dominion."

As our readers are aware, the British Association for the Advancement of Science will hold its meeting in 1897 in Toronto; and it is expected that a date will be selected which will allow the members of the association to go to the Montreal meeting after they have finished their work in Toronto.

THE NEW ACT RELATING TO BIRTHS, MARRIAGES, AND DEATHS.

THE Act recently passed by the Ontario Legislature contains some clauses which are important from a medical point of view. The clauses especially affecting physicians are those which require them :

- (1) To report all births to the registrar in each division.
- (2) To report all deaths to the medical health officer of each municipality.

The following are the clauses referring to these matters :

16. It shall be the duty of every qualified medical practitioner attending at the birth of any child born within this province to give notice forthwith thereof to the registrar of the division in which the child was born, giving, as far as possible, the particulars required in the form provided by the Registrar-General, with such additional information as may, from time to time, be required by the Registrar-General, in forms to be supplied through the division registrar.

17. In registering the birth of an illegitimate child, it shall not be lawful for the name of any person to be entered as the father unless at the joint request of the mother and the person acknowledging himself to be the father; and in all cases of the registration of the birth of illegitimate children, the division registrar shall write the word "illegitimate" in the column set apart for the name of child, and immediately under the name, if any.

22. Every duly qualified medical practitioner who was last in attendance during the last illness of any person shall forthwith, on notice of the death of such person, send to the medical health officer of the municipality in all cities, towns, and villages, for inspection and subsequent transmission to the division registrar, or, in case there is none, to the division registrar of the division in which the death took place, a certificate under his signature of the cause of death, according to the form prepared by the Registrar-General, to be provided by the division registrar, who shall be furnished with such forms, and who shall supply them to the physicians resident within his municipality.

23. No removal for burial of the dead body of any person shall take place, and no undertaker, clergyman, sexton, householder, or other person, shall engage in the burial of the dead body of any person unless a certificate of registration has been previously obtained and shown to the person so removing or engaging in the burial of the dead body. Provided that when death from a contagious disease has occurred in any township a certificate of registration from the nearest division registrar after revision by the medical health officer of the township and his certification thereof endorsed thereon shall be sufficient; but such division registrar shall forward the certificate to the registrar of the division in which the death occurred.

Correspondence.

DR. SANGSTER RISES TO OBJECT.

To the Editor of THE CANADIAN PRACTITIONER:

SIR,—My attention has just been directed to an editorial in your last issue, in which you do scant justice to a letter of mine that appeared in the July number of *The Medical Review*. Kindly afford me space in this month's PRACTITIONER to correct some of the more conspicuous inaccuracies and fallacies of your article.

You state that I threaten "fearless criticisms of every thought, word, and action of each and every member of the council." My letter in the July *Review* is before the profession, and a reference to it shows that what I did say is simply that to someone would be deputed the "duty of fearlessly criticizing every vote given and every contention set forth by each member of the council." I distinctly limit the proposed criticism to *votes and arguments*, and you make it appear that I propose that someone shall attempt the impossible task of reviewing not only every word and every action, but, worse still, every thought of every member of the council! Is this fair and honorable journalism?

You say that "it appears" (*i.e.*, from my letter) "that constitutional methods have grown somewhat tedious and monotonous to some of these gentlemen," and, further, that they (we) have now "decided to enter into an aggressive and unconstitutional warfare." Can you point out a single instance, from first to last, in which the executive of the Defence Association, or anyone assuming to speak, or to write, or to act in its behalf, has used or proposed to use methods of warfare which any recognized or competent authority would pronounce unconstitutional or unparliamentary? It was decided that an effort should be made to rectify existing abuses constitutionally through the council itself. This does not imply—although you have chosen to put that forced construction upon it—that these abuses cannot be constitutionally rectified in any other way, or that anyone proposed to seek their rectification by means other than constitutional. Such an effort has been made, not only once, but twice, and it was, on both occasions, frustrated, as I have explained in this month's *Review*, by a machine which, while it is suffered to exist in the council, precludes all

hope of future success in that direction. We know that our demands are righteous, and our duty to our constituents forbids us to cease from vigorously pressing them. To that end we propose, in the first place, to appeal constitutionally to the electorate, so as to secure, at the approaching elections, a council which, from a professional point of view, shall be more happily constituted. Failing in that, we shall seek redress from the legislature, which is our final court of appeal. You stigmatize this course as unconstitutional, and imply that it is unparliamentary and not respectable. Yet you must know that there is not a member of the House of Commons, of any note, whose votes and contentions have not, during the past six months, been time and again sharply and even viciously criticized by one or other of his fellow-members on the public platforms or in the public press. Have such men as Laurier, Tupper, McCarthy, and Wallace pursued devious, or unparliamentary, or unconstitutional, or discreditable courses when on the platform or in the daily newspapers they have appealed to the political electorate for a change in the complexion of the House, or when they have hammered at the policy or exposed the unfaithfulness of any individual member or members whose votes or contentions they were reviewing? I feel sure, sir, that not even your youthful zeal, as a newly-fledged authority on constitutional modes of procedure, will prompt you to answer this question affirmatively. And, if not, how do you propose to justify your unwarrantable assertion that we had grown tired of constitutional means and purposed resorting to unconstitutional methods of warfare? It is quite within your province to aspire to become the Mentor of the profession, but do you think that editorials such as this are calculated to so win the confidence of the electorate that it may eventually accept your mere dictum as authoritative on matters of constitutionalism and fair dealing?

You say that practically I "advise members of the profession to refuse to pay their assessment dues." While I claim that, under the circumstances detailed in this month's letter to *The Review*, I should be amply justified in offering such advice, I deny that I have done anything of the kind. I have received and answered scores of letters asking for information and direction on this matter, but I have uniformly declined to assume the responsibility of advising the writers not to pay. I have explained, as I did in my letter to *The Review*, the facts and the law as it applies to those in arrears, but I have strictly left it to each individual to decide for himself whether he shall pay or refuse. Any fair man will agree with me that the plain inference to be drawn from this part of my letter is that, while members of the college may be and probably are safe in refusing to pay up before March, 1898, their position thereafter, if they still refuse or neglect to pay, becomes a somewhat risky one.

Permit me to say, sir, that your whole editorial goes to show the futility of expecting anything like really independent journalism from those who, like yourself and your associate editors, are actively engaged as teachers and professors in the medical schools. Your material interests, your inspirations and your aspirations, are all intimately bound up in the institutions with which you are connected; and where, as in my threatened exposure of the origin of the recent changes in the matriculation standard, these are even indirectly assailed, it is perhaps too much to expect you to be impartial. It is true that, as between the two wings of the profession, your sympathies have swayed sometimes to one and sometimes to the other; but, as compared with your sympathies with the schools, it was perhaps never more than skin deep. Independent medical journalism is just now a desideratum. It was hoped that with the decease of the *Ontario Medical Journal* the epoch of really unfair medical journalism in Ontario had come to an end. It will to very many be a matter of sincere regret if it should now turn out that the mantle of that Elijah has fallen upon the shoulders of THE CANADIAN PRACTITIONER.

JOHN H. SANGSTER.

Port Perry, August 5, 1896

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

To the Editor of THE CANADIAN PRACTITIONER:

DEAR SIR,—I desire to announce to you that the date of the meeting of the Mississippi Valley Medical Association has been changed to September 15, 16, 17 and 18, in order to permit the members and their families to take the opportunity accorded by this change to make a pleasant tour through the Yellowstone Park, so justly celebrated as the wonderland of America.

Prominent resident members of our association in St. Paul and Minneapolis are formulating plans for the special Yellowstone Park excursion trip, to leave on the evening of September 18th, arriving in Mammoth Hot Springs in the Yellowstone Park about noon on the following Sunday, and devoting the following five days to the wonders of this remarkable region, returning to St. Paul on Sunday, September 27th.

The cost of the trip, including all expenses west of St. Paul, will be announced in due season, but we are authorized to say that the figure will be a very favorable one, and we simply wish at this time to make the preliminary announcement of this most enjoyable feature of the St. Paul meeting, so as to give members the opportunity of making their plans in advance to join the party. It is desirable that there be a party of 100 or more, in order to obtain the benefit of the special train service in both directions.

It is urged that all members who desire to join the party should send their names to Dr. C. A. Wheaton, chairman of the Committee of Arrangements, St. Paul, at as early a date as possible. If you desire to read a paper before the meeting please send to me the title at once.

HANAU W. LOEB, Secretary.

St. Louis, July 30, 1896.

Meetings of Medical Societies.

LONDON MEDICAL ASSOCIATION.

The last meeting of the London Medical Association, prior to adjournment for the midsummer, was held in the Medical College building on the 15th July.

Dr. Hodge read a paper on

THE ETIOLOGY OF TYPHOID FEVER.

He gave notes of eight cases ; all contracted the disease from the same source. The first case was that of a child who came with its mother from Montreal on a visit to London, and a week later took ill with what proved to be a typical case of typhoid fever. After a four weeks' illness the child and its mother returned to Montreal, where the mother and two other members of the family, shortly after, passed through an illness from typhoid fever. In the family visited at London, three members, as well as a child in the adjoining tenement, also took the fever. As to the cause of the large number contracting the disease, it was learned that during the illness of the first child in London the soiled napkins worn by the child in the course of the diarrhœa which complicated the fever were deposited in a tub of water in a back kitchen, and after soaking for from one to three days the water, prior to washing the napkins, was regularly emptied on the ground in the backyard.

All who afterwards took ill, including the boy in the adjoining tenement, were in the habit of frequenting or playing in the yard in question. Those who escaped the disease were the members who did not much frequent the yard.

Dr. Hodge maintained that the circumstances warranted the conclusion that all seven cases had taken the disease from the exhalations in the yard where the infected water was regularly emptied. He believed the bacilli in this, as in all cases of typhoid, entered the system through the digestive tract, first infecting the saliva, and by means of it conveyed to the primæ viæ. Only through the excreta from that tract did he believe typhoid was communicable.

Dr. Gardiner thought it an open question whether typhoid might not

be communicable through other sources than the excretions from the bowels. He thought it possible that in some cases the breath or exhalations from the skin might be the medium of contagion, and referred to cases that came under his own observation in support of this view.

Dr. Wishart read the history of a case of successful

NEPHRO-LITHOTOMY

in his own practice. The patient had symptoms of stone in the kidney for some five years. During this time he had, every few months, attacks of pain in the abdomen, lasting several hours and terminating in vomiting. During one of these attacks, one and one-half years ago, he passed a small calculus. Throughout the whole course of his illness the patient had frequency of urination, but never to his knowledge passed blood in the urine, except on one occasion. The doctors whom he consulted, however, said there was blood in the urine when they examined it microscopically.

The pain during the last year was rather constant and located below the ribs on the right side of the abdomen, but never radiated down the groin, or to the testicle or bladder. In the attack which Dr. Wishart witnessed, the patient had his right hand over the right inguinal region, and said all the pain was there, and did not radiate or change its location. Examination of urine showed specific gravity 1030, reaction acid, presence of blood cells, and a trace of albumen. The patient said he had taken medicine constantly for several years without marked benefit, and had been unable to do any work.

Dr. Wishart operated on March 25, 1896, reaching the kidney by the usual lumbar incision. The stone which he extracted and presented at the meeting was irregular in shape, about an inch in length, and of the diameter of a goose quill. The patient was able to return to his home, in Essex county, on April 24, and had reported a few days before this meeting that he was now in good health.

The doctor said that while operation for stone in the kidney was frequent enough, yet the records of cases where stone was actually found were comparatively few. The cases recorded up to a few years ago of the finding of stone in the kidney were less than thirty. He did not know what the number might be up to the present time, as he had not the records for the past three or four years.

A discussion followed as to the conditions which justified operation for stone, Drs. Meek, Gardiner, Graham, Hodge, Ferguson, and Wishart taking part in the discussion. The majority were in favor of a conservative course, operative interference being resorted to only when the symptoms persisted for a lengthened period and spontaneous cure became hopeless.

Book Reviews.

ARCHIVES OF CLINICAL SKIAGRAPHY. A record of the progress of medical photography and its various branches. With six skiagrams by Sydney Rowland, B.A., and clinical reports of the cases. London: The Rebman Publishing Company, Limited, 11 Adam street, Strand. Price, 4s. net per issue; with postage, 4s. 4½d. Portfolio to hold twelve issues, price 2s. post free.

We have received parts 1 and 2 of the *Archives*, and recognize the enterprise of the editor and publishers in putting forth such a thoroughly up-to-date publication. The illustrations are most beautifully executed, and the subjects are of the utmost interest. Skiagraphy is a recognized method of diagnosis, and a journal devoted to its advancement is bound to succeed. We look forward with pleasure to the subsequent volumes. The price is low when the quality of the illustrations is taken into consideration.

OBSTETRIC ACCIDENTS, EMERGENCIES, AND OPERATIONS. By L. Ch. Boisliniere, A.M., M.D., LL.D., late Emeritus Professor of Obstetrics in the St. Louis Medical College; Consulting Physician to the St. Louis Female Hospital and to St. Ann's Lying-in Asylum, etc. Philadelphia: W. B. Saunders, 925 Walnut street.

As the author says, this book is not a treatise on midwifery nor a manual of obstetrics. It treats the greater portion of what may be called pathological midwifery. It was written by a man of education, culture, and vast experience, and has been called by some of the author's friends "the crowning work of his life." Dr. Boisliniere died while the work was in press, January, 1896. It is altogether outside of the ordinary run of text-books on midwifery, and is in many respects all the more interesting on that account. Among the accidents described are abortion, puerperal hæmorrhages, inversion of uterus, rupture of uterus, obstacles to labor, tumors complicating labor, uncontrollable vomiting of pregnancy, convulsions, uterine displacements, etc. The second part of the work treats of version and other obstetric operations. The third part treats of accidents to the child. The style of writing is good, and the subject-matter is made more interesting by the narration of the author's personal experience in different varieties of accidents and emergencies. The book is especially well suited for general practitioners.

Medical Items.

DR. MACARTHUR and family (London) are summering at Grand Bend.

DR. AND MRS. ARNOTT, of London, are taking a trip down the St. Lawrence.

DR. PRIMROSE, of Toronto, has gone to Nova Scotia, where he will spend a part of the summer.

DR. GEORGE R. McDONAGH, of Toronto, has removed from Church street to his new offices, 140 Carlton street.

DR. JOHN FRASER, of London, is off on a visit through New Mexico, and intends returning by way of the West Indies.

DR. G. STERLING RYERSON has returned from England. We are glad to be able to state that his health is quite restored.

SURGEON-CAPTAIN EDMUND E. KING, Royal Grenadiers, after ten years continuous service has been granted the rank of Surgeon-Major.

DR. E. W. SPRAGGE, of Toronto, will spend a portion of the summer in Great Britain, and will then probably go on to the continent for a short time.

DR. BUCK, Superintendent of the Asylum for the Insane, London, attended the meeting of the American Psychological Association at Boston last month, and was elected vice-president.

DR. R. J. CRAWFORD (Tor., '93), who has been practising in Winnipeg for the last five years, will leave next month for Great Britain. He will probably remain abroad for a year or more.

DR. EASTMAN, the distinguished abdominal and pelvic surgeon, of Indianapolis, spent a week early in August in Toronto, as the guest of Dr. S. M. Hay. From Toronto he went to Muskoka, where he will remain a few weeks.

DR. THEOBALD COLEMAN (Tor., '91), after spending a year and nine months in the Johns Hopkins Hospital, Baltimore, working in surgery and pathology, has gone to England to continue his post-graduate studies. After a sojourn of a few months in England, he will go to Germany.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS.

The ninth annual meeting of the American Association of Obstetricians and Gynæcologists will be held at Hotel Jefferson, Richmond, Va., Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1896. The following papers will be presented :

1. Principles and progress in gynæcology, President's address, Joseph Price, Philadelphia.
2. Vaginal hysterectomy by the clamp method, Sherwood Dunn, Los Angeles.
3. Further experience with appendicitis, A. Vander Veer, Albany.
4. Relation of malignant disease of the adnexa to primary invasion of the uterus, A. P. Clarke, Cambridge.
5. Treatment of puerperal septicæmia, H. W. Longyear, Detroit.
6. Treatment of posterior presentation of the vertex, E. P. Bernardy, Philadelphia.
7. Relation of the local visceral disorders to the delusions and hallucinations of the insane, W. P. Manton, Detroit.
8. Differential diagnosis of hæmorrhage, shock, and sepsis, Eugene Boise, Grand Rapids.
9. Movab'le kidney: local and remote results, A. H. Cordier, Kansas City.
10. Pathology and indications for active surgical treatment in contusions of the abdomen, W. G. Macdonald, Albany.
11. Some causes of insanity in women, George H. Rohé, Sykesville.
12. Subject to be announced, John Milton Duff, Pittsburg.
13. Shall hysterectomy be performed in inflammatory diseases of the appendages? L. H. Dunning, Indianapolis.
14. Subject to be announced, Rufus B. Hall, Cincinnati.
15. Subject to be announced, Geo. Ben. Johnston, Richmond.
16. Dynamic ileus: with report of cases, J. W. Long, Richmond.
17. Faradic treatment of uterine inertia and subinvolution, Charles Stover, Amsterdam.
18. A plea for absorbable ligatures, H. E. Hayd, Buffalo.
19. Treatment of the stump, J. F. Baldwin, Columbus.
20. Limitations in the teaching of obstetrics and gynæcology as determined by state medical examining boards, William Warren Potter, Buffalo.
21. Subject to be announced, Walter B. Chase, Brooklyn.
22. (a) The philosophy of drainage; (b) Treatment of the pedicle in hysterectomy or hystero-myomectomy in the abdominal method, Geo. F. Hulbert, St. Louis.
23. Removal of the uterine appendages for epilepsy and insanity; a plea for its more general adoption, D. Tod Gilliam, Columbus.
24. Albuminuria of pregnancy, A. Fr Eklund, Stockholm.
25. Subject to be announced, Lawson Tait, Birmingham.
- Unnecessary and unnatural fixation of the uterus and its results, James F. W. Ross, Toronto.
27. Sarcoma of the urethra, Charles A. L. Reed, Cincinnati.
28. Appendicitis as a complication in suppurative inflammation of the uterine appendages, L. S. McMurtry, Louisville.
29. Gunshot wounds of the abdomen with the new gun, J. D. Griffith, Kansas City.
30. Subject to be announced, Walter B. Dorsett, St. Louis.
31. Subject to be announced, W. E. B. Davis, Birmingham.
32. Subject to be announced, E. Arnold Praeger, Los Angeles.
33. Tubo-ovarian cysts with interesting cases, A. Goldspohn, Chicago.
34. Obstruction of the bowels following abdominal section, Geo. S. Peck, Youngstown.
35. Memorial of Dr. Hiram Corson, Traill Green, Easton.

Correspondence is pending concerning additional papers. All titles must be offered before August 25th, when the permanent programme goes to press.

JOSEPH PRICE, *President*.

WILLIAM WARREN POTTER, *Secretary*.

THE CANADIAN MEDICAL ASSOCIATION.

The Canadian Medical Association will meet in St. George's Sunday School room, No. 15 Stanley street, Montreal, on August 26, 27, and 28.

The local committee are putting forth every effort to make the meeting a success. There will be "clinics" at 12.30 each day at the various hospitals—General, Hôtel Dieu, and Royal Victoria. The "clinics" will be followed by the reading of papers in the theatre of the hospitals, and, in order that time may be saved, light lunches will be served.

On two afternoons, Wednesday and Thursday, there will be short excursions, and on Thursday, August 27, at 7.45 p.m., the association dinner will be held.

Special arrangements have been made with the street car company so that no time will be lost in going to the hospitals from the place of meeting.

This promises to be the largest meeting of the association ever held.

The Interprovincial Registration Committee, about which so much interest centres, is booked to meet on August 26, at 10 a.m.

The regular sessions of the association commence at 12.30, noon, at the General Hospital.

The following is a list of the papers to be presented :

President's address, Jas. Thorburn, Toronto ; address in bacteriology, J. G. Adami, Montreal ; address in medicine, Geo. Wilkins, Montreal ; address in surgery, John Stewart, Halifax ; address in midwifery, "Abdominal and pelvic operation for the relief of conditions incident to the puerperal state," J. F. W. Ross, Toronto ; ——— J. D. Thorburn, Toronto ; "Hæmorrhagic pancreatitis," A. McPhedran, Toronto ; Title to be announced, Wm. Osler, Baltimore ; "One hundred cases of retroversion of the uterus, treated by ventrofixation and Alexander's operation, with results," A. Laphorn Smith, Montreal ; "The influence of mitral lesions on pulmonary tuberculosis," J. E. Graham, Toronto ; "A note on amputation at the hip joint in tubercular disease," A. Primrose, Toronto ; "Tetany following scarlatina," J. B. McConnell, Montreal ; "The foot, its architecture and clothing," B. E. McKenzie, Toronto ; ——— H. S. Birkett, Montreal ; "Ophthalmia neonatorum," R. Ferguson, London ; "Observations on the relation between leukæmia and pseudo-leukæmia," C. F. Martin and G. H. Matthewson, Montreal ; "Etiology and treatment of acne vulgaris," A. R. Robinson, New York ; "Thyroidectomy," D. Marcil, St. Eustace, Que. ; "Some observations on the heredity of carcinoma," T. T. S. Harrison, Selkirk ; "Some applications of entomology in legal medicine," Wyatt Johnston and Geo. Villeneuve, Montreal ; "Physiological demonstrations of interest to medical men," Wesley Mills, Montreal ; "The theory of the eliminative treatment of typhoid fever," W. B. Thistle, Toronto ; "Oral surgery," G. Lenox Curtis, New York ; "Vaginal Fixation of the Round Ligaments for Backward Displacements of the Uterus," H. N. Vineberg, New York ; "Clergyman's sore throat" (?), J. Price-Brown, Toronto ; "Non-malignant tumors of the tonsil, with report of a case," H. D. Hamilton, Montreal ; "Sinus thrombosis, associated with acute suppurative otitis media, occurring during scarlet fever," J. W. Sterling, Montreal ; (a) "Exhibition of an artificial nose-bridge," (b) "Some cases of foreign bodies in the eye, in which the electro-magnet was used successfully," F. Buller, Montreal ; "Remarks on cold air in the treatment of pulmonary tuberculosis," Edward Playter, Ottawa ; "Hereditary Cerebellar Ataxia (with patient)," D. Campbell Myers,

Toronto; "A report of three cases of abdominal section for conditions comparatively rare." H. Meek, London; "Early atrophy of muscles in cerebral disease," Frederick G. Finley, Montreal; Title to be announced, F. J. Shepherd, Montreal; "Electric baths and dyspepsia," A. L. de Martigny, Montreal; Title to be announced, J. C. Webster, Edinborough; "Militia medical re-organization," W. Tobin, Halifax.

From the circular sent to members we extract the following information about the Montreal meeting:

How to get there.—Purchase a ticket for Montreal, by rail or boat, from the station agent at the place of departure, and get from him a standard certificate (which is a receipt for one full single fare). When registering at the meeting leave the certificate with the treasurer, and it will be returned, signed by the secretary, on the morning of August 28. This certificate, when presented to the station agent at Montreal, will entitle the bearer to a ticket to his destination (1) for one-third of the single fare if there are fifty or more holding standard certificates; (2) free of charge, if there are 300 or more holding such certificates.

N.B. No. 1.—Delegates who travel by the Intercolonial will be returned for one-third of the single fare from Montreal to Lévis, and free from there, irrespective of number.

N.B. No. 2.—These rates refer to members, delegates, and their wives.

Hotel accommodation.—Windsor, \$3 and \$3.50 per day (special rate if fifty register); St. Lawrence Hall, \$2.50 per day (special rate); Balmoral, \$2.50 per day (special rate); Queen's, \$2 per day (special rate for one full day); Richelieu, \$2 per day (special rate).

PROVISIONAL PROGRAMME.

Wednesday, August 26.—10 a.m., St. George's Church schoolrooms, No. 15 Stanley street, Committee on Interprovincial Registration. 12.30 p.m., Montreal General Hospital, Clinical Work; President's Address, followed by general business and papers. 4 p.m., short excursion. 8.30 p.m., St. George's schoolrooms, Address in Medicine, Geo. Wilkins, Montreal; Reading of papers.

Thursday, August 27.—10 a.m., St. George's schoolrooms, Address in Bacteriology, J. G. Adami, Montreal; Reading of papers. 12.30 p.m., Hôtel-Dieu Hospital, Clinical work; Address in Surgery, John Stewart, Halifax; Reading of papers. 4 p.m., short excursion. 7.45 p.m. sharp, Association dinner.

Friday, August 28.—10 a.m., St. George's schoolrooms, Address in Midwifery, J. F. W. Ross, Toronto; Report of Committee on Interprovincial Legislation; Reading of papers. 12.30 p.m., Royal Victoria Hospital, Clinical work; Reading of papers; Reports of Committees.

N.B.—Light lunches will be provided for the members at the hospitals, and special electric cars will be furnished to and from these institutions.