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INFANTILE PARALYSIS.*

BY BERTRAM SPENCER, M.D., M.R.C.S.

Mr. Chairman and Gentlemen:

The subject of my paper for this evening has been selected, not for the purpose of propounding any new theories, nor any new plan of treatment of my own, but from the fact that one or two cases, that I have lately seen, have been of interest to me, and in the hope that any discussion on the subject may elicit from those present some light on the pathology and treatment, and more especially the treatment in the later stages of this rather unsatisfactory disorder.

Infantile paralysis; essential paralysis of children is an older and more senseless term; spinal paralysis of children; acute polio-myelitis of children, are some of the names given to this disease by various authors, which was first accurately described by Heine, a German observer, in 1840. He was the first to express the opinion that disease of the spinal cord was the chief factor in this paralysis, which opinion was confirmed later by Prevost, Vulpian, Charcot, and others, by the demonstration of actual pathological changes in the spinal cords of those suffering from this disorder.

This paralysis, as the name indicates, occurs almost altogether in children, during the earlier years and while dentition is in progress; though I myself have not seen, nor have I been able to find recorded, a single case where dentition alone might fairly be claimed to have been the cause of an attack.

Exposure to cold also is frequently accredited with the onset of this paralysis, and probably with more fairness than the cause I have just cited.

Bristowe says: "Its causes are obscure; it seems, however, neither to be hereditary, nor to be dependent in any degree on privation or other conditions associated with poverty. Dentition would appear to be largely concerned in its causation, and it has often been observed to follow on measles, gastric fever, and other febrile maladies."

Exposure to cold and damp is undoubtedly a common cause of the disease. Beard, Rockwell, Eustace Smith, Gowers, and others, also quote cases in which exposure to cold appears undoubtedly to have been the exciting cause.

Strümpell, on the other hand, says: "An exciting cause, like taking cold, has hardly ever been made out. The children are almost always perfectly healthy previously, and come of healthy families without any neuropathic predisposition. The whole course of the disease makes the hypothesis very probable that we have to do with an acute infectious disease—with an infectious process, which first causes a general infection of the body, and then is localised chiefly in a circumscribed portion of the spinal cord. It also, perhaps, bears some relation to the nature of the disease as just signi-

* Read before the Toronto Medical Society.

fied, that most of the cases occur in warm weather."

The prevalence of the occurence of this disorder during the warmer months of the year has been noted by most of the authorities I have had an opportunity of consulting.

Thus Eustace Smith, quoting from statistics of 149 cases collected by S. Smith, of Philadelphia, notes that 77, or rather more than 50 per cent, occurred in the months of July and August; while out of 111 cases reported by Dr. Barlow, of Manchester, 48 occurred in the same two months, and adds that although these are the two hottest months of the year, they are also those in which alternations in temperature are more rapid and unexpected, and in which, therefore, sudden chills are likely to be incurred.

In a case which I saw last year, Willie S., aged 3 years, walked with his mother on the 12th July to the exhibition grounds to see a procession of Orangemen.

The child had been perfectly well up to that date, of a bright, sanguine disposition, rather precocious for his age, and always climbing into all kinds of mischief.

The day was very warm and he perspired freely. On returning home he refused his tea, and became fretful and peevish and vomited during the evening.

I saw him at about 9 o'clock and found him somewhat feverish, his temperature being 103°; he had a slight pain in the back. I prescribed an effervescing saline mixture, and ordered cold water to be applied to the forehead and nape of the neck, thinking him to be suffering from a mild form of sunstroke.

The next day his mother called my attention to the fact that he had lost the power of his legs, and on my lifting him out of bed and standing him on the floor his legs collapsed under him; the reflexes, especially in the right leg, were absent, and the diagnosis was then easy.

Now, in this case, both parents and child were perfectly healthy; they were in comfortable circumstances; dentition was not in progress; it was the height of summer; to what then may we attribute this attack of paralysis? Was it to a chill following after the long hot walk, or was it as suggested by clinical history?

The onset of infantile paralysis is generally, as in the case just quoted, sudden; in many cases the child shows no symptoms of illness whatever, it goes to bed perfectly well, and in the morning a limb hanging motionless and paralyzed is the first sign of any mischief.

In other cases there may be high fever, great constitutional disturbance, headache, pains in the loins and back, together with cerebral symptoms, stupor, twitchings or general convulsions. After this initial period has passed away the child is attacked by a more or less extensive paralysis.

This paralysis spreads rapidly, either both legs or the legs and one arm, or all the extremities become affected in a very short time. There is no paralysis of the face or the parts supplied by the cranial nerves, and the mind, after the febrile stage has passed off, is not affected, nor is there loss of power over the sphincters of the bowel or bladder. Sensibility in the paralyzed part remains normal, there is no pain, nor tendency to the formation of sores or sloughs.

The general health becomes completely restored, the child eats heartily and sleeps well, but there remains an inability to use the affected limb. A flaccid, atrophic paralysis. Together with this flaccidity of certain muscles or groups of muscles there is a loss of electro-muscular contractility, so that they respond but faintly or not at all to the faradic current.

An important feature of infantile paralysis, however, is that the muscles, which will not respond to faradisation, will exhibit contractility under the galvanic current, so that in the treatment both currents are necessary—the faradic for the purpose of diagnosis, the constant for therapeusis.

Together with these signs of loss of reflex action, we have atrophic changes in the limb, which, however, come on later. It becomes cold and purple, the pulse is small, the fat becomes absorbed, the muscles wasted, ligaments of the joints become relaxed, and the whole extremity is backward in its growth, so that the bones are often considerably shortened.

The paralysis is at first much more extensive and complete than it becomes later on; after some weeks, probably, a partial recovery takes place in those muscles whose contractility was not altogether destroyed at the outset.

In some fortunate cases the paralysis may

disappear entirely, but as a rule complete paralysis is left in one extremity, most frequently in the leg or in some groups of muscles of the leg, generally those on the anterior and external aspect, viz., the common extensor of the toes, the peronei muscles and the tibialis anticus, giving rise to talipes equino-varus, the deformity most commonly met with as the result of this form of paralysis.

In paralysis of the muscles of the calf, on the other hand, the deformity will be of the calcaneus variety.

Most of the authors that I have consulted, ascribe these deformities to the contraction of the muscles antagonistic to those which are paralyzed; and the treatment or the prevention of these contractions and deformities appears to me to be of such moment, that I trust I may be excused if I quote what is said by Eustace Smith on the subject in his own words: "One of the most important and characteristic results of the disease consist in the paralytic contractions, which almost invariably occur when muscles are permanently disabled, and constitute various kinds of deformity. They are especially common in the feet, and are the principal cause of the different forms of club-foot, which develop in the child after birth. The contractions occur, not in the paralyzed muscles as a rule, but in those which still retain their contractile power. They begin early and tend to increase as time goes on. This contraction of unaffected muscles, or of muscles partially affected, was attributed formerly to the influence of a so-called muscular-tonus."

It was supposed that a constant stimulus proceeded from the spinal cord, and kept all the healthy muscles in a state of slight contraction. In the normal condition, it was said, opposite muscles neutralize one another; but if the muscles become paralyzed on one side so that the contracting pain on that side is abolished, the limb is drawn to the affected side by the action of the tonus in the unaffected muscles.

This theory was combatted by Werner, who maintained that the contraction could be explained without recourse to the imaginary tonus. He asserted that when one set of muscles was paralyzed there is no deformity until the opposite set of muscles is put into action. The limb is then drawn to that side and cannot be replaced by the paralyzed antagonistic muscles. It therefore remains in its new position until replaced, or until it falls back again by its own weight. Consequently it must happen that the limb is often and long in one position, for the muscles, once contracted, remain so, because the antagonistic muscles can no longer act. After a time they lose the power to relax, and a permanent contraction becomes gradually established.

Volkman and others, however, have pointed out that the deformities are only partially caused by the inability of the paralyzed muscles to oppose the contractions of the healthy muscles They believe the most important factors to be the weight of the affected limb itself, and the greater pressure thrown upon it when in use.

Talipes *equino-varus*, the most common deformity in the lower limb, is just the position the foot takes when the ankle-joint is not acted on by its muscles. If a child has not walked this is invariably the deformity we meet with. The foot naturally falls into this position, and the shortened, flabby muscles, in course of time, become permanently fixed in this position.

The growth of bone, too, being arrested, the affected limb is shorter than its fellow, and the child is compelled to point its toes towards the ground, all tending to produce the same deformity.

According to the same author, if the paralysis occur in a child who has already learnt to walk, talipes-valgus is the deformity he may expect to meet. The child brings its weight to bear on the sole placed flat on the ground; the foot being no longer steadied by the paralyzed muscles curves outward until the ligaments are made taut; these in time become stretched and the foot fixed in this position.

This form of talipes-valgus, however, is not so complete as that caused by over-exercise and fatigue, for, when the weight is taken off the limb, the foot naturally falls into the equino-varus position; and the weight of the foot itself, acting as a counterpoise to the affected muscles, draws them back to the normal position.

Strümpell is in accord with Volkman on this point, believing that weight and pressure are prominent factors in causing the various deformities met with. He says: "After the paralysis has existed for a long time, certain secondary contractions almost always develop in the para

lyzed parts, which are in part of a very characteristic type. In the legs especially, the paralytic club-foot (talipes equino-varus) is a symptom long known. It is due to the fact that from paralysis of the peronei muscles, and of the tibialis anticus, the point of the foot constantly droops, and that a contracture is gradually developed in the antagonistic muscles of the calf, whose points of insertion are permanently approximated. In paralysis of the muscles of the calf, on the other hand, there arises a moderate degree of calcaneus from the contracture of the antagonists. In the arms and in the vertebral column, in paralysis of the spinal muscles, the most manifold and sometimes very considerable contractures and deformities may also arise, the chief cause of which is always to be referred to the contracture of unparalyzed antagonists, and to external mechanical conditions like weight and pressure."

I have perhaps, gentlemen, been somewhat tedious in my quotations and in my attempts to describe the exact causes of the deformities, especially of the lower limb, in infantile paralysis; but the fact that it is these deformities, which we have to treat, and that the question of tenotomy and other operative interference may occasionally arise in connection with them must, I say, be my excuse for such prolixity.

I do not believe the diagnosis of this affection to be at all a difficult matter as a rule. We have certain definite and well-marked symptoms pointing to this lesion of the nervous system and to no other.

The motor paralysis without alteration of sensibility; the non-response of the muscles to the faradic current, together with the absence of reflex action; the non-implication of the sphincter muscles of the bladder and rectum, or of those supplied by cranial nerves; and lastly the absence of any tendency to sloughing or to sores on the parts exposed to pressure, are points which separate distinctly this paralysis from those of cerebral origin, from general myelitis, and other affections of a similar character.

Formerly, infantile paralysis was supposed to be of peripheral origin, and to have its seat in the affected muscles.

Heine, as I have said, was the first to discover that it was an affection of cerebral origin, and that its seat was in some portion or another of the spinal marrow.

It consists of an acute inflammation affecting the gray matter of the cord, generally the anterior gray cornu of one side, though the white matter is sometimes more or less implicated.

In recent cases, according to Gowers, there is abnormal redness of the anterior gray matter, the vessels running from the surface to the cornu are distended with blood.

Under the microscope the capillaries are seen distended; there are extravasations in the grey substance and swelling of the neuroglia and ganglion cells, which become granular and lose their processes; the anterior bone becomes softened and filled with granular *débris* of disintegrated nerve cells.

These are the appearances to be met with in the earlier stages. Later on the bone becomes shrunken so as to be easily seen by the naked eye; the nerve cells disappear altogether and are replaced by fine connective tissue, and well-marked sclerosis occurs.

The anterior white columns are often in a state of degeneration, the neuroglia is thickened, the nerve fibres atrophied, and the columns themselves shrunken and small.

If the paralysis affects one arm, the corresponding anterior cornu in the cervical enlargement is atrophied; if one leg alone is affected, the atrophy will be found in the corresponding lumbar enlargement. This anterior cornuitis is the primary centre of the disease; the posterior columns and the brain being always unaffected in the post-mortem.

So the lesion of infantile paralysis is an acute myelitis of the anterior gray cornu, leading to circumscribed patches of sclerosis with complete destruction of the large ganglion cells and other nerve elements.

So much briefly for the pathological changes in the spinal cord.

The changes seen microscopically in the muscular fibres in well-marked cases are about as follows:

(1) The transverse striæ are less distinct, they are frequently broken, and the longitudinal fibres become more marked.

(2) The muscular fasciæ become composed entirely of longitudinal fibres, the transverse striæ rapidly disappearing.

(3) The longitudinal fibres become less distinct, and are interspersed with oil globules or fat cells.

(4) The fat becomes more abundant, the muscular fibres less distinct, and the fascia becomes a discolored, shapeless mass; having lost almost all electro-contractility, and changed from a muscle into a mere fibrous bundle.

The stunted growth of the limb, the absence of cutaneous and tendon reflexes, the cold and cyanotic appearance of the extremity, all point to trophic disturbance referrible to the destruction of nerve tissue in the affected part.

"Will my child be a cripple for life?" is a question which has been asked of all of us by the parents of a child suffering from this paralysis; and this question should, I think, be answered with some reserve.

So many cases show, after a time, such great improvement in the tone of the paralyzed muscles, even when left quite to themselves, that a gloomy prognosis is often a faulty one; at the same time, the improvement may be so rapid at first, that parents may be too hopeful of a complete recovery, which I believe to be a rare event.

On the other hand, some cases, where I suppose the cornual destruction is great, from the outset do badly; and are followed by extensive contractions and deformities, which leave the child a complete cripple. In such a case a hopeful opinion leads to disappointment and chagrin for all hands.

Speaking on this point, Gowers says: "An answer cannot be given until the end of the first week or ten days, and then only by means of an electrical examination. Whatever muscles at the end of that time have lost faradic irritability will certainly waste and remain for a long time paralyzed. On the other hand, if there is no loss of irritability at the end of ten days, but it is apparent at the end of a fortnight or three weeks, the wasting will be slighter in degree, and considerable ultimate recovery may be looked for, even in the most affected part.

"When there is no loss of irritability, the paralysis will pass off in the course of a few weeks, or at least of a few months. Where irritability is lost early, the wasting will be rapid and great; the paralysis will last for several years, and it is unlikely that perfect recovery will take place."

From these remarks we see that it is unsafe to give a decided opinion as to the future, until an examination by electricity of the wasted muscles shows us in which of them we may expect recovery, and in which one of them more or less permanent paralysis.

In the commencement of my paper I called this an unsatisfactory disorder; and, as far as my experience goes, the complete cure of the paralysis is so rare an event that I think it may fairly be placed in this category.

Unsatisfactory, too, have been the therapeutic effects of any or all of the drugs I have seen given. Certain it is that the large ganglionic nerve cells in the anterior cornu being destroyed, we cannot replace them by the use of drugs, nor can I see how they may be restored by galvanism applied to the spinal cord.

During the febrile stage, antipyretic measures should, of course, be employed, and counter irritation, by mustard poultices, ice-bags, etc., is, I believe, useful.

Some authors insist on the necessity of placing the child in the prone position, believing that the dorsal position favors the congestion of vessels within the spinal canal.

In practice, however, it is very difficult to carry out; the child will certainly turn over on its back the first opportunity that presents itself; the parents will assist it in so doing when the doctor's back is towards them, and they will often lie to him when he expostulates; this, at any rate, has been my experience on more than one occasion.

Iron, quinine and strychnine may be given after the muscles begin to show some signs of amendment, with a view to their general tonic effect on the system, but of any systematic remedies, I believe Fellows' syrup of the hypophosphites has seemed to do the most good in my own cases.

With regard to electrical treatment, this should not be commenced till the end of the third or fourth week after the onset, and then all acute symptoms have passed off.

If begun earlier than this, Gowers says it is apt to excite increased excitement in the spinal cord.

The same author thinks that such treatment is in no sense a curative agent, but that its effect on the muscles in causing them to contract,

must have an influence in the right direction upon their nutrition; and the application need only be made to those muscles in which the faradic irritability is lowered or lost.

In the case I have quoted of the child who was attacked with infantile paralysis on the 12th of July, 1888, the galvanic current was applied three times a week, twice a day, for a period of between three and four months; together with this treatment, his legs were well rubbed night and morning, by his mother, with salt and water and a rough towel, the only medicine taken being Fellows' syrup.

He is now able to walk and run, but somewhat haltingly, the right foot showing a slight degree of talipes-varus, and the calf of the right leg measuring just one inch less than that of the left.

The wasted muscles are still being subjected to a nightly shampoo, and a boot, with a support, has been ordered, to counteract the tendency to club-foot.

Massage, kneading, and shampooing of the muscles of the affected limb, I believe to be the most effectual means at my command of restoring power, and of obviating deformities. The difficulty in this form of treatment is that its application requires some knowledge of massage, or of methodical rubbing, not always obtainable; any rubbing practiced should be towards the centre so as to propel the flow of venous blood.

The dry hand is said to be the best for this, but I have employed inunctions of cod liver oil, believing that mal-nutrition of any form indicates its use, and I think with benefit to my patient.

The blueness and coldness of the limb calls for artificial heat, which may be afforded by wrapping it up in thick cotton batting, after it has gone through its seance of galvanism or massage.

In conclusion, I think we shall all agree with a distinguished author, who closes his chapter on this subject with this word of caution: "Much patience and perseverance are required in the management of these cases through their long and tedious course."

DR. ELLIOTT, of Toronto, has gone to Europe to spend a few months.

CASE OF INTRA-CRANIAL TUMOR.*

BY W. B. THISTLE, M.D., L.R.C.P. LOND.,
Out-Patient Physician, Hospital for Sick Children, Toronto;

AND JOHN CAVEN, M.D., L.R.C.P. LOND.,
Pathologist to the Hospital.

J. S., æt. 10 years, admitted to Hospital for Sick Children, Toronto, Jan. 3rd, 1890. This patient was brought to the H.S.C. to obtain treatment for supposed stomach trouble, having for some time been unable to retain food, vomiting coming on at once after eating. For several weeks he had been dull and stupid, showing no inclination for his usual games, etc. He also complained much of frontal headache. Ten months before admission to hospital had had one or more fits.

Present condition. The boy is well nourished and healthy in appearance. He has a blank expression in his face and pays little attention to surroundings. Questions have to be repeated several times before an answer is received. Answers are correct. His gait is peculiar, the patient staggering sometimes to right, sometimes to left side. Pupils are slightly dilated, but equal. Reaction to light is normal. No squint is present. The boy lies curled up in bed with his face downwards, and holding his head in his hands. Patellar reflexes are exaggerated, abdominal reflex present. Testicles are drawn up to external rings; abdomen is flat and hard. The skin is harsh and dry, the papillæ standing out prominently (*cutis anserina*). Vomiting occurs a few minutes after eating, the act of vomiting being easy. The bowels are constipated. Heart sounds normal and regular, rate 64 per min. Breath sounds normal, rate 16 per min. Temperature 97.4. Lymphatic glands nowhere enlarged. Sensation is normal.

NOTES TAKEN DURING STAY IN HOSPITAL.

Jan. 4. Retained dinner, bowels moved. Patellar reflex absent. Abdominal and cremasteric reflexes present. Blister applied to nape of neck, and mixture of maltopepsin, nux vomica, and infusion of calumba given.

Jan. 7th. Vomiting continues; cannot find his way back from bathroom, although he goes there by himself.

Jan. 9th. Convulsive seizure, nurse says, "He became quite stiff and his eyes fixed."

*Read before the Pathological Society of Toronto.

Jan. 23rd. Food retained; pupils unequal, right larger than left; both react to light.

Jan 26th. Convulsion; general tonic spasm lasting a few minutes, complete opisthotonos; during spasm eyeballs jerked from side to side; unconscious (12.30 p.m.)

Slight nystagmus present; movement being lateral (9.30 p.m.) Staggers more to-day; pupils equal.

Feb. 3rd. Had three fits, two close together, third an hour and a half later; opisthotonos with jerking of eyeballs and congestion of the face. Right pupil twice as large as left. Hyperæsthesia marked, but patient is able to distinguish sensations. Tâches cérèbrales marked. Urine passed in bed. Can be aroused only with great difficulty.

Feb. 4th. Internal strabismus of right eye.

Feb. 6th. Evidently blind; very stupid, giving same answer to all questions.

Feb. 7th. Convulsion, opisthotonos, etc., as before.

Feb. 12th. Internal squint of left eye—right eye normal.

Feb. 19th. Convulsion to-day, right pupil larger than left, unable to stand; if left unsupported, he stands with feet apart, and sways back and forward, finally falling backwards; is somewhat cataleptic. Muscular power remains good.

Feb. 22nd. Very stupid; squint in left eye, pupils react to light; slight convulsion as before; double optic neuritis present.

Feb. 25th. Complains if bed is jarred, putting hand to forehead; squint in left eye, nystagmus present, slow and lateral; urine and fæces voided in bed.

March 10th. Fit; spasms both tonic and clonic, and so differs from previous ones; no opisthotonos nor frothing at mouth. Respiration sighing and irregular.

Mar. 21st. Three fits; tonic spasms, very severe.

Mar. 23rd. Breathing irregular, long pauses between inspirations; abdomen retracted.

Mar. 29th. Difficulty with food, which accumulates beneath lips.

Mar. 30th. Tonic spasms for four hours, frothing at mouth, pupils contracted, pulse 200, respirations 40. This condition passed into coma, and Mar. 31st, death supervened at 9 a.m.

The diagnosis in this case was intra-cranial tumor, probably cerebellar or pressing on the cerebellum, and in all probability interfering also with the corpora quadrigemina.

The autopsy showed that the diagnosis was correct and that the localization had been almost exactly accurate. The growth, which was as large as a good sized hen's egg, lay upon the crura cerebri, and was bounded by the third ventricle in front, and the middle lobe of the cerebellum behind. Superiorly it was partly covered by the velum interpositum. The corpora quadrigemina and pineal gland appeared to have been completely destroyed, the new growth taking their place. The middle lobe of the cerebellum was also damaged, and perhaps the lateral lobes also slightly, by pressure. The growth proved, when examined microscopically, to be an alveolar sarcoma. The stroma forming the alveoli was evenly arranged in fairly broad bands, which in many places were richly nucleated, the cells represented by the nuclei not being distinguishable. The cells contained in the alveoli were large, spherical, epithelioid cells; the nucleus, however, in most of them, was large, filling out the cell as commonly seen in round cell sarcomata. Blood-vessels were numerous, in some cases running amongst the cells. Occasionally processes of connective tissue were to be seen entering the alveoli from the stroma, and running amongst the intra-alveolar cells. A considerable quantity of fluid was found in the ventricles, but not sufficient to cause any appreciable flattening of the convolutions. The other organs of the body showed little noteworthy, except lack of nutrition. Subpleural ecchymoses were found in the lungs, accounted for by the condition of respiration shortly before death. On the free border of the liver was found a light whitish-yellow patch, extending back into the liver substance for about ¾ of an inch; it was perhaps 1½ inches long. It was perfectly smooth, causing no puckering or raising of the surface—the change in color being the only peculiarity. This white wedge on microscopic examination proved to be fat. Every trace of liver substance had disappeared, and its lobules had been entirely replaced by fat. The surrounding liver tissue was not fatty to any extent. The reporters have noticed such patches in the liver—always on the free border—in a number of cases, and are at

a loss for an explanation of their causation. Possibly the cause is some localized interference with blood supply; producing a local anæmia and consequent fatty change.

From a clinical standpoint, this case is interesting, mainly on the account of the fact that the symptoms allowed of such accurate localization. The localization was based upon:

(*a*) Staggering gait, swaying when standing, and finally falling backwards. These point to the cerebellum as seat of lesion.

(*b*) Character of convulsions, tonic spasms, pointing to cerebellum.

(*c*) Irritation of corpora quadrigemina in monkeys produces similar convulsions.

(*d*) Sudden supervention of blindness points to injury of corpora quadrigemina.

Selections.

TREATMENT OF GANGRENOUS BOWEL IN STRANGULATED HERNIA.

BY FRANCIS M. CAIRD, F.R.C.S., EDIN.,
Assistant Surgeon, Royal Infirmary, Edinburgh.

When about to discuss the treatment which should be carried out in a case of strangulated hernia with gangrenous bowel, it is well to note the more usual sites and extent of the gangrenous areas. We may do this by observing the state of the bowel when exposed during operative interference, or by the examination of museum preparations. Femoral hernia, more especially, affords us an opportunity of inspecting good examples of this condition.

In regard to the question of position, it would appear, from a study of the preparations and cases, to which I have had access, that we may find changes of a gangrenous nature situated as follows:—First, on opening the sac, and within it, a projecting knuckle of bowel may be met, gangrenous on its free border. Second, in dividing the constriction at Gimbernat's ligament, a similar condition may be found immediately beneath the point of stricture. Third, on pulling down the dilated vascular gut from out the abdominal cavity, it may be found damaged above the entrance into the sac. Fourth, but rarely, there may be a gangrenous patch on the collapsed portion within the abdomen beyond the sac. It seems that necrosis may occur at any one, or even at all of these points.

If we now remove the bowel, and spread it out so as to expose the gangrenous areas more clearly, we note that, if several be present, they occupy the positions already indicated, and are separated from each other by a distinct interval of comparatively healthy tissue. In regard to the extent of the necrotic change, we may note that the area which lay beneath the constriction is more or less annular in form. It resembles a signet ring, the bezel towards the free convex border of the gut and the ring, more or less eomplete, narrowing and tailing off towards the mesentery.

The patches at the remaining sites are all more or less oval, run in the long axis of the bowel, and lie opposite to the mesenteric attachment. Their extent will naturally vary with the duration and circumstances of the hernia.

As to the treatment of the constricting agent, when one meets with gangrenous bowel in a hernial sac it is evident from what has already been adduced, that it must be divided in order to judge of the condition of the bowel beyond. And in cases where the bowel has already ruptured, a stream of antiseptic lotion may be employed to thoroughly wash away fæcal extravasations, and to disinfect while the stricture is divided.

There is now a choice of treatment. If the gut has not yet actually given way, the surgeon may return it, hoping that within the peritoneal cavity there is still a remote chance of its recovery. Or, again, he trusts to the local paralysis preventing it from straying far from the wound, he hopes that local adhesions and effusion may shut off the damaged gut from the peritoneum, and that if, after all, death of the part should take place, that in this fashion general infection may be prevented, and at the outside only a fæcal fistula ensue. Again he may prefer to stitch the gut to the wound, thus forming an artificial anus. Or, again, he may venture to carry out the more heroic resection of the gangrenous gut, and by suture restore its continuity.

I would venture to add yet another method which, under certain circumstances, might prove highly serviceable. It is, that in place of making an artificial anus, or practising resection, we should close the rupture in the gut, or prevent

its formation by inverting the dead or dying tissue, and suturing the sound wall of the bowel over it. The invagination thus carried out will be at the expense of the circumference of the gut, and must, of course, leave a somewhat diminished lumen.

The gut should be withdrawn, and closure effected by means of Lembert's suture. The needle must enter healthy tissue, and emerge in tissue that is fairly healthy, and the stitches should begin above, and end beyond the gangrenous area, just as in suture of a ruptured bladder. The invaginated portions subsequently slough, and are passed by the natural channels.

The method is chiefly applicable to the small gangrenous areas which lie in the long axis of the gut. It might also save resection in bullet and other wounds of intestinal tract. It can be carried out rapidly, there being nothing to cut away, and therefore no hemorrhage to control. The stitching is rendered much less troublesome by the use of Dr. J. M. Cotterill's intestinal needles.

We have, however, to ask what evil results may follow from such treatment. One dreads the formation of a stricture. However, in the case of suture in the *longitudinal* axis of the gut, where not more than one-third of the circumference is included, one would probably have little to fear on this score. Little or no contraction is likely to follow after the primary suture. And, again, if we are dealing with the small intestine, the fluid character of the contents is not likely to give rise to much trouble, even with a somewhat narrowed lumen. On the other hand, where there is a damaged *ring* of tissue, general contraction giving rise to a marked stricture often ensues. Such a ring of dying tissue presents the appearance of a piece of gut pulled down after division of the stricture in a femoral hernia. The damaged hernia resembled a piece of wet wash leather.

The patient suffered from strangulated hernia, and made a favorable recovery from the operation. Progressive symptoms, indicative of stricture followed, interference was not permitted, and seven months after the original operation the preparation was obtained. Such an event is indeed to be dreaded. But are we here more justified in looking for the formation of stricture after invagination of the necrotic area and suture than after an ordinary resection? Our hope is that the invaginated portion may at once slough and be cast off; that the suturing may indeed complete the necrosis, by cutting off the blood supply of the invaginated part; and that as the slough is cast off, a natural cure, similar to that seen occasionally in intussusception, may be brought about.

The method described then, is an attempt to apply Nature's teaching. To what extent we may venture to diminish the lumen of the bowel, can only be learned by vivisection, or the study of cases in man. In every case a careful selection of some one of the various plans of treatment must be made, and this can only be determined by the condition of the patient generally, the local state of the parts, and the resources of the surgeon.

The following are a couple of cases in which suture of the gangrenous gut was followed out:

Mrs. M. was seen by Dr. Alexander Edington on a Sunday morning, suffering from a strangulated hernia, which had been "down" since Friday. Taxis having proved unsuccessful, herniotomy was carried out with the aid of Dr. Edington and Dr. Milligan. The sac contained straw-colored fluid, and the gut was not deeply congested. On division of the constriction at the neck, and on pulling down the bowel, a couple of rents came into view, with ragged, everted edges. There was no fæcal extravasation. The parts were invaginated and sutured with catgut, as described, under antiseptic precautions, the bowel returned, and the wound closed. The patient made a good recovery, and since that date has enjoyed good health, and the intestinal functions are perfect.

No other suitable case for suture presented itself until 1889, when I saw, at her own house, Mrs. C. She had a pinched, worn look, suggestive of peritonitis. There was continuous fæcal vomiting. The home arrangements not proving suitable, she was removed to the Royal Infirmary, and there operated on. The sac contained brownish fluid, a tag of omentum, and a knuckle of gangrenous bowel. The gut was deeply congested. An ovoid longitudinal area opposite the mesenteric attachment was greyish white, flaccid, and lustreless, but had not yet given way. Gimbernat's ligament was knicked, the gut pulled down, the omental tag returned, and the

dying area turned inwards, sound tissue being brought to sound tissue by interrupted sutures. Since the inverted tissue in which the sutures were planted seemed in a very doubtful condition, and since the bowel contained fluid contents, it was deemed advisable to apply a second layer of continuous Lembert sutures over all. The finest Chinese silk was used, and rendered still finer by splitting it up into fibrils, so that the sutures were as delicate as gossamer. This procedure allows one more readily to thread Dr. Cotterill's needles.

No attempt was made to attain a radical cure. Horsehair sutures were inserted into the lips of the wound, but were not tightened. On the third day, all having gone well, the horsehair was tightened, and the wound was closed. The patient did well, passing wind about thirty hours after operation.

At the end of three weeks she was about to be sent home, when she complained of much morning sickness. She was in the third month of pregnancy. The sickness and nausea continued with intermissions. She had attacks of vomiting. At no time was there any obstruction—wind always passed freely. The bowels required an enema to empty them. There was at no time any abdominal tenderness, or pain, or swelling in the region of the cicatrix. The abdomen was always lax, and moved freely during respiration. The unsatisfactory state of affairs continued, and it was thought advisable to explore, when she suddenly had an attack of diarrhœa, passing most offensive motions; the heart's action, always weak, became very irregular, and she sank four weeks after the operation.

At the autopsy there was not the slightest evidence of peritonitis. A loop of ileum was fixed to the internal aspect of the crural ring, and crossing it anteriorly, attached to the same point, lay the tag of omentum which had been seen during the operations. This had evidently acted as a constricting band. The gut was intact. On removal, the bowel was laid open. A pyloric-like ring of constriction, which could only admit the little finger, showed the site of the operation. Immediately above it the mucous membrane was distinctly ulcerated, and thus the diarrhœa was accounted for. The heart showed marked fatty degeneration.

It is noteworthy that we found here a short localized general contraction, instead of a lumen only narrowed slightly for about an inch in length. The success of the first case was, however, so marked that one felt encouraged to carry out similar treatment in the second instance, although the unfortunate result shows that the vitality of the gut had been too greatly lowered. It is probable that a reactionary congestion and inflammation set in beyond the range of the sutures, and that the subsequent cicatrization of the effused products, more especially in the infiltrated sub-mucous tissue, gave rise to the contraction. Contraction may occur with great rapidity. In the museum of the Royal College of Surgeons there is a preparation showing a strictured gut, which barely admits an ordinary lead pencil, and which was found formed nine days after the reduction of a strangulated femoral hernia.—*Edin. Med. Jour.*

EMPLOYMENT OF SUGAR IN WOUND TREATMENTS.—By Dr. Jacob Dannheiser.—F. Fischer, of Strassburg, in 1885, introduced sugar as a wound dressing, claiming for it special advantages. The author, in an inaugural dissertation, shows that, in spite of the ever varying changes which the special means employed by surgeons in the carrying out of the antiseptic idea, have undergone, this agent is that employed at the Strassburg clinic. The sole change, and one of great importance, is the omission of the impermeable covering formerly employed; the result being that the sugar does not break down so readily into a liquid condition and a condition of dryness of the wound is maintained. The sugar is incorporated in cushions combined with wood, wool, etc., when profuse wound secretions occur. It is also used as a powder application to ulcerated surfaces, with the happiest results. It is contra-indicated in cases of cavities left after resections, and where there is secondary hemorrhage, iodoform gauze tampons being here substituted.—*Deutsch. Zeitschrift. f. Chir.* Bd. xxix. p. 311.—*Annals of Surgery.*

ECHINOCOCCUS HEPATIS; EXTIRPATION WITH PARTIAL RESECTION OF THE LIVER.—By Vohtz, Aarhus.—A woman, æt. 21 years, had observed a tumor in the abdomen for some nine years. This had rapidly increased in size after a second confinement, eleven months before. There was

found a sphere-like, smooth and tensely fluctuating tumor extending below a line drawn from one iliac spine to another and above not to be separated from the liver. It was the size of a child's head, easily displaceable to either side or upward, and but little downward. It had no connection with the sexual organs. It was diagnosed as an omental tumor, on account of its great mobility, and laparotomy commenced, when an echinococcus, occupying the lower and posterior surface of the liver, was revealed. It was excised, and with it a part of the greatly atrophied hepatic tissue was removed. The large and not greatly bleeding wound was united by a strong continuous suture, so that a crest-like elevation was the result, and the abdominal wound was closed. Recovery was uneventful, excepting a slight increase of temperature during the first days after the operation.—*Hospitals Tidende*, 1889, 22-610-612.—*Annals of Surgery.*

UNIVERSAL ALOPECIA IN MIDDLE AGE, WITH HISTORY OF SEVERE RINGWORM IN CHILDHOOD. —A lady, aged 45, who was sent to me by Mr. R. H. B. Nicholson, of Hull, was absolutely hairless. She had in the course of about a year lost all her scalp hair and that of her eye-brows, eye lashes, axillæ, pubes, and limbs. She assured me that she had not a hair left. The alopecia had begun in the usual way by patches on the scalp (one on the vertex and one on the occiput), which for some months did not spread much. Then occurred a sudden accession of severity, and the hair fell, she said, with most astonishing rapidity until all was gone. Although she considered that she had been out of health, and had suffered from "nerve shock," I could find nothing special. She was florid, and looked well. She had been liable, like most other people, to headaches, but curiously they had been quite in abeyance during the time that the hair was falling. She had been well treated in the early stages by means of blistering, etc., but nothing had seemed to do any good.

I, of course, asked as to ringworm. "Oh, yes," she replied, "I had it very badly, and my head was shaved four or five times. I shall never forget it." This was about the age of seven. A sister, since dead, had ringworm at the same time.

It will be seen that in this case the interval between the cure of the ringworm and the beginning of the alopecia was probably not less than thirty years.—*Jonathan Hutchinson in Archives of Surgery.*

JOHNSON ON POISONOUS EFFECTS OF EXALGINE.—The patient, a medical man between forty and fifty years of age, was suffering from pain in the lumbar and iliosacral region, for which, one evening at 9:30 p.m., he took one grain of exalgine; at 10:15 p.m., not feeling any relief he took two more grains in a little whisky. Shortly afterwards he complained of giddiness, and said that his head felt so large that it seemed to occupy the whole room. He continued, however, playing cards till 11 p.m., when, without warning, he collapsed and was unable to speak or move, and lay gasping for breath. He continued in that state over half an hour, when he was able to speak a little, and said that each breath was a fearful effort; he was carried up to his bedroom, and placed in an arm chair, as he was unable to breathe lying down. He then got worse again, his breathing being especially distressing, and somewhat resembling that of a person in an attack of asthma. His respirations were thirty-eight shallow, pulse rather weak, body surface cold, but not cyanosed. Two hours later he got some relief after vomiting, and he then suffered from dysuria; an hour later he was able to go to bed, and slept well. He afterwards stated that during the dyspnœa he had a feeling of numbness all over, and felt as if his diaphragm had stopped working. Next morning he was slightly jaundiced, but in other respects quite well. [*Rep.*—As these effects have not been observed in any other recorded cases, they were probably due to idiosyncrasy].

ALLEN ON DIABETES MELLITUS IN CHILDREN. —Dr. Allen reports two cases of diabetes occurring in children. The first case was a boy, aged three and a-half years, a very bright child, who had previously enjoyed good health—his father and mother were healthy, but the latter somewhat nervous. The patient, six months before being seen, was noticed to pass an unusual quantity of urine, occasionally wetting the bed. He was now weak and peevish, very thirsty, skin dry, limbs cold, and was passing four quarts of urine in twenty-four hours;

the specific gravity was 1028, and it was found to contain sugar. A week later the patient had lost flesh and strength, and had taken to his bed, and slept most of the time, being very intelligent when aroused. He was not very thirsty, but was very hungry. He rapidly failed and died, living only about seven months after having first been noticed to pass more urine than natural. At the post-mortem there was some increase in the amount of subarachnoid fluid, and slight opacity of the lining membrane of the lateral ventricles of the brain. The brain was unusually large. The second patient was a boy seven years old, father and mother healthy, but his great-uncle and two great-aunts had died in middle life of diabetes. During the past six weeks the patient was languid and thirsty, rising many times each night to micturate. His appetite was excessive, but he was very thin. Three quarts of urine were passed each day. Specific gravity 1040, containing a large amount of sugar. This patient died about three months after he was first seen [Diabetes in children, according to West, is very rare; he quotes Prout, who, out of his large experience, had only seen one instance of diabetes in a child of five years old, and only twelve in young persons between the ages of eight and twenty years, out of a total of 700 cases.—*Rep.*] *Francis Hawkins, M.B., in London Medical Recorder.*

MANAGEMENT OF SHOULDER PRESENTATIONS.—E. P. Wells *(Am. Jour. Obstet.)* reports several cases of cross-presentation, for the purpose of directing attention to the great advantage of the knee chest position in facilitating the performance of version. The practice is an old but neglected one. What is often a difficulty may thus become an extremely easy operation. The contractions of the uterus are much less powerful in the inverted position. The fœtus gravitates away from the brim, the hand is readily introduced and all the manipulations are extremely simplified. Cephalic version is generally feasible in cases, in which the podalic only would be possible in the dorsal posture. For cephalic version, the manipulation consists in pressing the presenting shoulder away from the brim in a direction toward the child's breech with the internal hand, the other hand assisting by external pressure over the head. The shoulder easily passes out of reach, the head taking its place at the brim. For podalic version the direction of the pressures is reversed, the external hand being applied over the breech. In these procedures the hand is introduced but a very short distance into the uterus. If they fail, which is rarely the case, resort may then be had to the passage of the hand deeply into the uterus for the purpose of bringing down a foot.—*Brooklyn Med. Jour.*

EXPLORATORY LAPAROTOMIES IN INJURIES OF THE ABDOMEN—*(Revue de Chirurgie,)*—Since May, 1888, Postempski has performed twenty laparotomies for different abdominal injuries, and has only lost three patients. The injuries are classified as follows:—Eight cases of penetrating wounds of the abdomen, with protrusion and probable injury of intestines, six cases of wounds of intestine, four cases of wounds of intestine and of mesentery, one case of wound of the liver, and one of the bladder. The duration of the operation varied from thirty minutes to three hours. In the three fatal cases, death ensued in one from shock, and in the remaining two from purulent peritonitis, the result of the escape of the fæcal matter. Among the cases three are of special interest:—(1) Transverse wound in the right hypochondrium. Injury to the liver, very free hemorrhage; operation half an hour after the accident; a vertical incision, extending from the transverse wound; suture of the hepatic wound; removal of a large quantity of blood from the peritoneal cavity; suture of the abdominal wound. Cure in seventeen days. (2) Transverse wound in the hypogastric; protrusion of the large intestine and of omentum; enlargement of the wound, leading to the discovery of four wounds in the intestine. These were sutured on the twentieth day; a small fæcal fistula formed, which, however, spontaneously closed afterwards. (3) Wound in the hypogastric region, with protrusion and injury of the bladder. This was sutured by three planes of sutures, after enlargement of the superficial wound. Disinfection of Retzius' space, into which urine had escaped. Introduction of a Nelaton's catheter, which was left *in situ*. Cure. In all the cases strict antisepticity had been observed, and the fluids employed were boracic acid, salicylic acid,

and a weak solution of sublimate. Postempski is in favor of early intervention in cases of abdominal injuries.—*Postempski in Med. Chronicle.*

THE ANTISEPSIS OF THE RENAL PASSAGES BY THE INTERNAL USE OF SALOL.—In the intestinal tube, as a consequence of the action of the pancreatic juice, salol splits up into carbolic and salicylic acids, which are then eliminated by the kidneys, carbolic acid unchanged, salicylic acid after combining with sodium. Nencki, Sahli, and Lépine having proved this beyond contradiction, as a consequence, recommend its internal use in "internal disinfection" in cholera, typhoid fever, and bacterial diseases. Dreyfuss, bearing these facts in mind, has recommended its use internally as a means of inducing the passage of an antiseptic fluid, through the kidneys, ureters, bladder, and urethra; and claims that it acts in a much more intense manner and covers a wider field than can be accomplished through an injection of antiseptic fluid. Sahli further has shown that the urine of patients who have taken salol internally is aseptic, and that salol in large doses is well borne and never produces toxic symptoms. It is, therefore, quite as suitable for producing antisepsis in the urinary passages as naphthol for antisepis of the intestinal tract. Dreyfuss has employed salol, either alone or with various balsamics, in blennorrhœa, the full dose varying from 75 to 120 grains. Even in acute cases, treated at the very outset, this mode of treatment rapidly diminished the secretion and in some few cases arrested it within a few days. Its effects are especially marked in combination with the use of cubebs or copaiba.

Finally, Dreyfuss recommends this use of salol in operations upon the urinary organs, for in this way the urine is kept aseptic, and the source of danger is thus avoided.—*Americ. Practitioner and News.*

HERPES TONSURANS WHICH HAD TRAVELLED FROM THE SCALP TO THE SKIN OF THE HAND (TWO CASES).—I have just seen a case of ringworm on the hand of a boy which has interested me. The lad was brought for "eczema," and all that he had to show was a narrow line of slight redness with exfoliation, which crossed the back of his hand and extended upon his thumb. All the rest of his skin was quite healthy. My attention was attracted to the abruptness of the line, and the circumstance that it presented the appearance of a number of curves joined together. It was, in fact, like a part of the edge of a large patch of eczema marginatum as we sometimes see it on the inside of the thigh. I never, however, saw the latter with such a very insignificant border, or with such perfect soundness of the skin which had been abandoned. Knowing, however, of no skin eruption excepting ringworm which can take the form of a narrow advancing border alone, I at once suspected this disease. It was difficult to get anything for the microscope, for the hairs were very small and the desquamation very little. However, using a lens, I picked off a few scales, and pulled out a few hairs. At first there appeared to be nothing. The hairs were as transparent and as smooth as possible, and nothing like a broken one could be seen. after a little search, however, plenty of fungus was found in the form of long monilliform threads clinging to the roots of the hairs. The common condition was jointed threads, and for the most part outside the hairs. There were but few groups of spores.

The history given was that the boy had suffered from ringworm of the scalp six months ago, which had been well cured. Ever since, however, a slightly marked eruption had been slowly travelling down his arm, of which what I saw was the remains. A portrait of the hand was taken by Mr. Burgess for the College of Surgeons collection.

A few days after I had seen this case a somewhat similar one presented itself in a little girl, whom I had myself treated for ringworm of the scalp. All that remained in her was the patch on the back of one hand.—*Jonathan Hutchinson in Archives of Surgery.*

CRISLER(J. A.) ON HOW IRON ACTS IN ERYSIPELAS.—Erysipelas is essentially a constitutional disease with local manifestation, more or less self-limited, and dependent upon the streptococci erysipelatosi for its existence as a disease. The most settled fact we have in the limits of bacteriology, is that Fehleisen of Berlin, isolated, proved, and named the above germs. Fehleisen demonstrated that these mi-

crobes, if let alone in the bloo ', will not die unti they have attacked the tissues and split them up, making the tissue give up its oxygen, and the element itself combines with the nascent oxygen, and dies. He further proves that in the zone of infiltration these organisms are dead, and to obtain viable ones it is necessary to go to the area of healthy tissue. If we accept these statements as facts there remains but one broken link: since we know that these elements do not die till they are combined with oxygen, and that usually they get the oxygen by the tissue change they produce, the question arises, Does the oxygen that the hematin causes to enter the blood combine with these ptomaines or not? Certainly it seems plausible, and in fact reasonable, from a chemical standpoint at least. We have that law laid down before us in every object in nature. "Unlikes attract and likes repel each other." Through the influence of iron (and it is iron alone and not the chlorine in the tincture, for we could not get enough chlorine in the blood to act antiseptically without producing the death of the amimal) we crowd into the blood nature's own germicide, oxygen. This oxygen, like that found in the peroxide of hydrogen, comes in with outstretched arms as it were, unsatisfied and surrounded by all the environments necessary to unite with an electro-positive element, and it is but the fulfilment of chemical laws when it does unite. Even in plethoric people iron alone gives the best results. Iron should be given first, last, and all the time in this disease. The room should be well aired, and besides, a small quantity of oxygen should be continually generated therein.—*Memphis Med. Jour.*, April, 1890.

EUCALYPTUS IN CATARRH OF THE RESPIRATORY TRACT AND OBSTINATE COUGH IN CHILDREN.—For several years I have been in the habit of using preparations of eucalyptus, both internally and by inhalation, in the treatment of certain cases of acute and subacute bronchial and laryngo-tracheal catarrh, more especially in children. For inhalation in diphtheria, croup, laryngitis, whooping-cough, and phthisis, I prefer eucalyptol; but for internal use in bronchial and laryngo-tracheal inflammations the fluid extract seems to serve a better purpose. In acute cases my usual custom is to administer it in connection with ammonium salts; in subacute cases a little paregoric may be advantageously added. In the obstinate irritative coughs following inflammatory affections, which have apparently subsided, the fluid extract of eucalyptus is best given without other drug, in syrups of tolu and acacia, or in an emulsion of oil (castor oil, olive oil, cod liver oil, almond oil), as necessary to disguise its taste or modify its action. The dose is about five drops for a child of two years. The following are specimen formulæ:

℞.—Ammonium carbonate, 8 to 16 grains.
Ammonium chloride, 22 to 48 "
Fluid extract of eucalyptus 1½ f ʒ.
Syrup of acacia, ½ f ʒ.
Syrup of wild cherry, *or* Glycerine, *or* Syrup of tolu } ½ "
Water, sufficient to make 2 fluid ounces.

For a child two years of age, with acute bronchial or laryngo-tracheal catarrh, one fluid-drachm in milk or water every two, three, or four hours.

℞.—Aromatic spt. of ammonia, Camph. tincture of opium } of each 2 f ʒ.
Fluid extract of eucalyptus 1½ f ʒ.
Syrup of acacia, Syrup of wild cherry } of each ½ f ʒ.
Water, sufficient to make, 2 f ʒ.

For a child with subacute bronchial catarrh, one fluid-drachm in water, every two, three, or four hours.—*Solomon Solis-Cohen, M.D., in Med. News.*

A SUBSTITUTE FOR POST-MORTEM CÆSAREAN SECTION.—Passing through the wards of the Philadelphia Hospital about a year ago, when not on duty, my attention was called to a dying woman in the last month of gestation, lying in the laparotomy-room, surrounded by a group of resident physicians, who were waiting for the moment of death, that one of their number might do a post-mortem Cæsarean section. The woman evidently had but a short time to live; there was no pulse at the wrist; the death rattle sounded in the throat; the eyes were opened, insensible and glazed. The fœtal heart-sounds, curiously enough, were still quite distinct and regular, and active fœtal movements could be seen and felt. In view of the child's good condition, and of the possibility that in the woman's lingering death the fœtus might die before its mother, I advised the resident-physi-

cian in charge of the case to dilate the cervical canal with his fingers, insert his hand, and do a version followed by immediate extraction; surmising, as it proved, correctly, that the tissues of the dying woman could offer no resistance to these manœuvres. Although there was not the slightest dilation of the os when the operation was begun, Dr Sharpless, the physician in charge, extracted the child in less than five minutes. It was born alive, and soon cried lustily. It lived a week, I believe, and died of some condition independent of the manner of its birth. The woman's death, a short time after delivery, was certainly not hastened by the operation; in fact, she seemed a trifle better after it. At the post-mortem examination meningitis was found to be the cause of death. When the procedure, just described, is at all possible, I believe it should always be preferred for post-mortem Cæsarean section. By waiting for the mother's death, one may lose the infant as well; the post-mortem is a disfiguring and bloody operation, which would horrify the friends of the patient, and for which their consent could not always be obtained; and, finally, there is the alarming suspicion entertained by the by-standers, if not by the physician, that the woman might not have been dead, but was killed by the operation. On the other hand, version and extraction are as quickly done as section, if one can judge by this single experience; the child is rescued while it is still in good condition; there is nothing repulsive about the operation to the bystanders, and death is not hastened by it.—*Barton Cooke Hirst, M.D., in Med. News.*

ACUTE ASCENDING PARALYSIS.—Carter reports in *Brit. Med. Journal*, May 17, the following case of Landry's paralysis, which terminated in complete recovery:

J. R., æt. 25, railway stoker, married, consulted physician July 19th, complaining of sore throat and aching pains in limbs; nose had bled several times during few days; temperature, 99°; patient looked healthy, was temperate; had no venereal disease; had, in fact, always enjoyed good health, with exception of an attack of typhoid fever, when ten years of age.

July 22nd, complained of increased sensation of weakness; sore throat is gone. Complains of pricking and numbness in arms and legs. Could not lift shovel with coals, although he could hold the shovel in his hand.

July 25. Looked pale and ill. Movements slow. No inco-ordination. No difficulty with speech. Great weakness of limbs, and pricking sensations increased.

July 27. Unable to stand; vomited. Temperature normal; pulse rapid. Sweating freely; expression anxious, and face pale. Sensation was unaffected. With support on each side he had to shuffle one leg in front of the other. Bladder and rectum not involved.

August 2nd. Condition worse. For a few days has complained of difficulty in swallowing. Cannot now swallow fluids even. Dyspnœa very great. Patient is unable to move from side to side; his arms are perfectly powerless; legs motionless and flaccid; pupils widely dilated; pulse extremely rapid and irregular. The head was thrown back, causing paralysis of muscles of the neck. There was no retention of urine. He had a desire to defecate but could not; voice is a hoarse whisper.

August 3rd. Condition continued about the same. Nutrient enemata given.

August 4th. Improvement in swallowing, and respiration. He drank a quart of milk. Voice became stronger. Pulse became slower. Four days afterwards he was able to swallow bread sops.

Recovery of paralyzed parts continues from above downwards. Pupils contract; can support head. At the end of another week he can move the fingers a little, and arms and shoulders recover power gradually. The legs were the last to recover. They did so about a fortnight later than the arms. In six weeks patient was out of bed, and continued to regain power until in October he had full power, but was somewhat thin and weak. In December the patient was about to return to his employment as a stoker.

The reporter of the case considers that the paralysis is due to the pressure of effusion into the central canal of the spinal cord, the effusion being the result of chill. W. B. T.

RESULTS OF THE NON-OPERATIVE TREATMENT OF FRACTURE OF THE PATELLA.—By Dr. W. T. Bull, New York.—The author presents the results obtained by him in the treat-

ment of sixteen cases of primary fracture of the patella, and six cases of refracture. His treatment had consisted in the use of plaster-of-Paris bandages after the effusion had subsided, with the application within the splint of adhesive plaster strips to steady the fragments. After six and eight weeks this splint was removed, a posterior splint applied, and the patient allowed to walk. For the next month or six weeks the posterior splint is always worn by day, the thigh and knee are vigorously shampooed and kneaded, but care is taken not to flex the joint and thereby stretch the ligament. At the end of three months, the patient is usually able to bend the limb but slightly, but the power of extension is good. Occasionally the splint is worn for a fourth month. Gradual increase of the use of the limb without further support is encouraged from this time. Passive motion is undesirable.

As regards the functions of the limb, Bull reports the result to have been functionally perfect in ten cases; that is to say, the flexion and extension of the limb has been complete and strong, and the ligament firm, with little or no atrophy of the thigh. In four other cases flexion and extension has been imperfect, but the joint has subserved all the needs of the patient. In the two remaining cases there resulted no power of extension whatever, and the patients were compelled to wear supports or walk with a cane.

As regards the character of the union in the fourteen perfect and fairly good cases, it was believed to be bony in one instance; in two there was no appreciable separation of the fragments; in the remaining cases it varied from one-fourth inch to one and one-fourth inch, the average being nine-tenths of an inch. In the two bad cases, the ligament was one-f urth of an inch in one case, and one and a half inch in the other. In the six cases of refracture, in two excellent functional power was regained, one with a ligament of one inch, and the other with one of an inch and a half in length. The four remaining cases of refracture remained deficient in power of extension with ligaments from one and a half to five inches in length.

The author emphasizes the need of stimulating the development of the quadriceps. He advises that in case the ligament and joint functions begin to weaken after the sixth month, wiring of the fragments should be done, but condemns without exception wiring in recent fractures, and challenges those surgeons who resort to the immediate suture to explain by what process of reasoning they can call it a justifiable procedure.

In cases of refracture and of old ununited fracture the author gives a qualified assent to the propriety of wire suture, although suppurative arthritis and abscesses in the thigh, terminating in death, had followed in the only case in which he had attempted to apply the suture for the cure of ununited fracture. In compound fracture wiring is proper. Death, however, resulted in the only case of this kind recorded by the author.—*Medical Record*, March 22, 1890.

TREATMENT OF FRACTURE OF THE PATELLA.—In the treatment of fractured patella there are chiefly two things to do, first extend the leg on the thigh, and so control the position of the lower fragment; and, second, to overcome the action of the extensor quadriceps muscle, and thus regulate the position of the upper portion of the bone. Accessory to this should be the pressure by plain roller bandages over the patella, to prevent tilting or "riding" of the fragments.

This is accomplished in the method under consideration by a light wooden ham-splint, well padded and placed posteriorly over the thigh and leg, from the buttock to the upper end of the lower third of the leg, for extension; and by the application of coaptation splints with buckle straps over the extent of the great patella muscle, the quadriceps. A roller bandage should be placed over the coaptation splints, and buckle straps. As for bandaging over the fragments, this may be practically confined to simple pressure to prevent "riding;" as little can be accomplished with the bone and muscle beneath through the various sorts of traction over the skin, we should avoid pressing the skin down between the fragments. To relax the rectus femoris muscle, which is the portion of the quadriceps having pelvic origin, the leg should be elevated, and that best, perhaps, by placing pillows underneath and tying them in place with strips of bandage passed around the limb and the bed also, if necessary.

This method is best distinguished by its sim-

plicity, and the more direct application of control to the action of the great patella muscle, the contraction of which determines, provided the leg be kept straight, the degree of separation of the fragments. Also by the ease with which the coaptation splints may be tightened by the buckle straps about them, and thus steadily prevent the opportunity which diminished swelling and atrophy otherwise furnish the muscle to contract within a loosening apparatus.

The apparatus, after being worn for four or five weeks or more in bed, according to the nature of the case, is then equally suited to movement about on crutches, and from its lightness is especially well suited to this. After a time, four weeks or more, the coaptation splints may be omitted and the ham-splint alone retained. The latter admits, if not too tightly bandaged, of a slight degree of motion, and the first step in overcoming the joint adhesions is thus safely begun. I have had a patient, thus treated after a muscular action fracture, able to walk well without apparatus at the end of nine weeks. A scarcely perceptibly fragment separation was present. Do not attempt too rapid recovery of the knee motion, and postpone its complete return and unrestricted use even as long as a year.—*Newell in Medical Record.*

DILATATION INSTEAD OF THE SUPPORT OF THE PERINEUM.—The dread of the perineum becoming ruptured during the passage of the child's head lead to the practice of supporting it, and this has been more or less done from time immemorial to the present day. A large midwifery experience convinced me many years ago of the faliacy and danger of this practice; and in a paper read before the Obstetrical Society of London, and published in their *Transactions* of 1875, I recommended a diametrically opposite line of treatment, which is certainly followed by far better results.

Let us consider for a moment the object we have in view—namely: We want the soft parts of the outlet of the pelvis to dilate, so as to allow of the passage of the child's head without its weakest part rupturing. What does support do? It presses the perineum between the hand on one side and the child's head on the other, so that the more support we give, the more squeezed, thinned out, and lengthened the perineum becomes. No wonder, then, that it frequently gives way. One can hardly imagine anything so likely to favour a rupture as this pressure on both sides. True, the support may delay the advance of the head, but this pressure against the perineum rouses the uterus and makes the pains more violent, so that, if delay is the object sought, direct pressure upon the child's head is infinitely preferable, and safer in every way.

In cases of ruptured perineum what has occurred? Either the outlet was abnormally unyielding, or there was not time for it to expand, so that the weakest part gave way. The obvious way of preventing this unfortunate result is to dilate the perineum before the child's head reaches it, and practically this is easily effected. One can readily form an opinion as to the necessity for this proceeding by ascertaining the dilatability of the parts, the size of the outlet, the length of the perineum, and the character of the pains.

If there is reason to believe that the parts will not readily yield to the advancing head, they may be gradually dilated by drawing back and expanding the perineum during each pain, first with two and then with three fingers, and keeping up as firm extension as can be borne short of pain, and continued from time to time until the required amount of dilatation has been obtained.

By this simple proceeding (1) the pains are strengthened; (2) the latter part of labour is materially shortened, and it is far less painful: (3) the perineum is preserved intact.

Fifteen years ago I confidently recommended the dilatation of the perineum as the best means of avoiding the danger of its rupture and of facilitating the latter stages of labour; and further experience fully confirms the favourable opinion I had then formed of its usefulness, and which led me to bring before the profession a mode of treatment which, so far as I know, had not up to that time been recommended.—*H Ernest Trestrail, M.R.C.P., F.R.C.S., in Brit. Med. Jour.*

DR. W. G ANGLIN has been appointed Professor of Pathology, and Dr. E. Ryan, Demonstrator of Anatomy, in the Kingston Medical College.

THE

Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS OF THE MEDICAL SCIENCES.

Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.

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TORONTO, JUNE 16, 1890.

THE SUMMER SESSION.

After this year, attendance in at least one summer session will be demanded from all candidates at the Council examinations. We hope that the students will find it to their advantage to take the summer sessions. The mere book worm, who, in former times, frequently stood high in the class lists, has now rather a poor chance at our practical examinations. Our students should have ample opportunities in the laboratories and at the bedside. The old-fashioned love for purely didactic teaching has sadly interfered with practical work during the winter sessions in the Ontario Medical Schools. The students, with the terrors of the bedside examinations ever confronting them, fully appreciate this. As an evidence of this we find a large number attending this year's summer sessions, although as yet purely optional.

There are this year no less than sixty-two students in attendance at the summer session of the University of Toronto. It was scarcely thought possible to attract so many to our school without any compulsory enactments. The students are shrewd enough to discover where their interests lie, and to appreciate the great advantages of practical teaching. It has been a difficult matter to make the extra session popular in Toronto, and the few that persisted in their efforts in this direction met with many discouragements. In spite of such obstacles their labors have been crowned with success, and in the future, the summer session will be considered almost a necessity to the student who desires to be properly qualified for his final examinations.

ONTARIO MEDICAL COUNCIL EXAMINATIONS.

The results of the recent examinations of the Medical Council show that that body is determined to do its duty in the matter of keeping up the standard of medical education in this Province. About one-third of the final, and over a half of the primary, candidates were rejected. When we consider the fact that the students as a rule entertain strong fears respecting the examination, and that many of the weaker men avoid it, these percentages of the unfortunates must appear large. For a simple pass examination for license to practice they are large; but we find no disposition on the part of the profession to complain or protest. As a rule the good men are passed and the poor men are plucked; there may be occasional exceptions but we have reason to think they are rare.

We believe the examiners did their work conscientiously and well. The time allowed for the oral examinations is too short; but for that the Board is not responsible. We hope there will soon be changes for the better in this respect. While it is very desirable to maintain a high standard, the students have rights which must not be ignored, and they should have a fair opportunity to show their knowledge or ignorance, as the case may be. Seven minutes for a trial is not enough time. Not less than fifteen minutes should be allowed. We cannot, however, expect perfection at once; and we are pleased to notice that improvements appear from year to year. The Council has shown a commendable desire to make the examinations as thorough, practical, and fair as possible, and their efforts should receive a general support and encouragement.

NOTES.

THE struggle to obtain degrees for London medical students still continues. Last week the report of the Special Committee on the various proposals which have been made, especially those of the Royal College of Physicians and Surgeons, and of the University and Kings' Colleges, was presented at a meeting of the Senate of the University of London. It is claimed that the London medical students should have an opportunity afforded them of obtaining a

University degree in London, and that the examinations should be of a rational standard, and not of the very high standard which is now demanded by the University of London. The graduates of the University of London naturally object to a lowering of the standard which at present exists.

MR. LOCKWOOD has communicated to the *British Medical Journal* a report of two cases of strangulated hernia which, after operation, he he had treated with the double cyanides of zinc and mercury. In each of these cases there occurred beneath the edge of the dressings a rash of angry-looking pustules, which caused some pain and discomfort. As these were not developed in the immediate neighborhood of the wound, the healing process was not interfered with, and the formation of the pustules do not seem to be more than an inconvenience. It is not at all uncommon to find blisters formed after the application of alembroth gauze, and it was hoped that the double cyanide dressing would prove less irritating. Lister's new dressing, however, seems to have some irritating qualities, and it is, therefore, not quite as satisfactory as we could wish. It is said by Mr. Watson Cheyne that the contents of the pustules above referred to are sterile.

DOCTORS IN THE LOCAL LEGISLATURE.—We are pleased to notice that the doctors did remarkably well in the recent Provincial elections. There will be eleven physicians in the next Parliament: Dr. Baxter, of Haldimand; Dr. McKay, of South Oxford; Dr. Dowling, of South Renfrew; Dr. McKay, of West Victoria; Dr. McMahon, of North Wentworth; Dr. Gilmour, of West York; Dr. Barr, of Dufferin; Dr. Preston, of Leeds; Dr. Willoughby, of East Northumberland; Dr. Wylie, of West Simcoe; and Dr. Meacham, of Lennox. Of these, we understand the first six are called Reformers, while the remaining five are known as Conservatives. Among the defeated candidates there were four doctors, as follows: Dr. Tennant, of South Bruce; Dr. Hunt, of Centre Gray; Dr. Fleming, of West Kent; and Dr. R. F. Preston, of North Lanark.

DR. CANNIFF'S BOOK ON THE MEDICAL PROFESSION IN UPPER CANADA.—We direct the attention of our readers to the Prospectus just issued of the work, by Dr. Canniff, on the early history of the medical profession of this Province, between 1783 and 1850; and we would ask for the book a hearty recognition from our brethren. Dr. Canniff has been engaged for a number of years, as he could find time, in collecting the information and arranging the historic documents which will be found in the pages of the work. The doctor has a taste for old-time lore, and has laid the foundation for the history of this Province in his "Settlement of Upper Canada." This latter work has, we know, been a labor of love, more particularly because it related to his profession, of which he has always been a loyal member. He has not thought of any financial gain in the undertaking. The manuscript is now complete and ready for publication. But the doctor wishes it to be understood that the publishers, Messrs. Williamson & Co., will only proceed with the publication when they have a sufficient number of copies subscribed for to cover the expense. Every member of our profession should feel sufficient interest in the early history of the Province, and of the profession particularly, to cause him to become a subscriber, and we believe the profession generally will respond to the request of the publishers. From the prospectus we learn that the volume will contain about 600 pages, and is divided into three parts. First part: The Pioneer Medical Men, and the several steps taken to establish the profession on a legal basis. Second part: The Proceedings of the Upper Canada Medical Board from its organization, 1819 to 1850; and the College of Physicians and Surgeons of Upper Canada, 1839-41, with references to historical events, showing the growth and development of the profession. Third part: Biographical Sketches of early Physicians of the Province, with many references to early events in the history of Upper Canada. An appendix, containing many historical documents. Biographical sketches are given of 226 medical men, and reference is made to about 600 other doctors engaged in practice before 1850.

DR. W. T. STUART has gone to New York, where he will spend the most of the summer.

Meeting of Medical Societies.

THE PATHOLOGICAL SOCIETY OF TORONTO.

April 26th, 1890.

The President, Dr. R. A. Reeve, in the chair.

UTERINE FIBROIDS.

Dr. Oldright presented two intra-mural fibroid tumors, one of which he thought had undergone osseous degeneration. The other noticeable point discovered during the post-mortem examination was the presence in the stomach of a number of circular depressions, seemingly old ulcers which had healed, the mucous membrane growing over them.

Dr. Acheson thought that the nodule had undergone calcareous rather than osseous degeneration, for under a magnifying glass it presented a broken crystalline appearance. Ossification could not occur in such a place, for where would the osteoblasts come from?

Dr. McPhedran asked if these calcifications are ever crystalline. He had thought that they were always amorphous.

MENINGITIS.

Dr. Oldright presented the brain and cord, the bladder and ureters of an unmarried woman of 34. Dr. J. E. Graham had some time ago seen her in consultation, and thought her to be a masturbator and hysterical. Three weeks after having la grippe, she complained of loss of power in the right arm, which was not entirely imaginary. She then took to her bed. Paralysis of the right leg was next noticed. The catheter was necessitated by paralysis of the bladder. Pains in the head and in the dorsal spine were complained of. In the urine there was an abundance of albumen. On post-mortem examination the meninges were found to be slightly injected, and there was an unusual amount of spinal fluid. The left ureter was very much enlarged, being 1⅓ inches in diameter at its widest point. The wall of the ureter was thickened. The pelvis of the kidney was dilated. The bladder walls were slightly thickened.

Dr. Thistle presented a

TUMOR OF CORPORA QUADRIGEMINA.

(See *ante* p. 276.)

ATROPHY OF CEREBELLUM.

Dr. McPhedran presented a brain, in which the right lobe of the cerebellum was greatly atrophied, being less than half the size of the left lobe. The patient was a man of 26, who had for some eighteen years had epileptic seizures. He was of a dull, heavy, unintellectual cast of countenance. He gave a history of nocturnal attacks. For some two weeks while in the hospital, he was free from seizures and was advised to go home. Constipation was then marked and he was given physic. Some four days before death there came on excessive diarrhœa and incontinence of fæces. Suddenly tympanites came on. For the last two days before death he complained greatly of abdominal pain, there was excessive tympanites, watery diarrhœa, and elevation of temperature. Post-mortem examination showed tubercular ulceration of the intestine with a small point of perforation.

Dr. McPhedran presented a heart with

MITRAL STENOSIS.

(See *ante* p. 248.)

Dr. D. J. Gibb Wishart presented a heart with mitral stenosis and tricuspid incompetence from a girl of 14. There had been a history of tonsillitis and various rheumatic manifestations. The lungs were greatly fibrosed and absolutely devoid of any œdema. The mitral valve was of the cone form, the chordæ tendineæ being agglutinated and presenting an appearance like a half opened fan. The musculi papillares were also agglutinated by small fibrous patches.

Dr. Scadding presented a card specimen of

PERFORATING ULCER OF THE STOMACH.

Hospital Reports.

PAPILLOMA OF THE TONGUE SUCCESSFULLY REMOVED.

UNDER THE CARE OF T. S. COVERNTON, M.D., L.R.C.P., IN THE TORONTO HOSPITAL FOR SICK CHILDREN.

D.B., æt 2½, admitted March 30th, 1890. A growth existed on the dorsum of the tongue, one and a half inches from tip, and mesially situated. The tumor might be described as sessile; it had a very broad base, with, however, a distinct sulcus between its anterior and lateral edges and the dorsum of the tongue, the pos-

terior margin, however, was not so clearly defined. The growth was flattened and projected one-sixteenth of an inch above the general surface of the tongue; its surface was slightly irregular, presenting a number of minute papillæ to view. It measured three-quarters of an inch from side to side, and slightly more from before backwards. It felt spongy under pressure of the finger. The child had been sent to the hospital from the infants' home; the history of the development of the growth is somewhat obscure. It is said to have certainly developed since birth; but the exact date of its appearance is not known. It was first noticed four months ago; since that time the rate of growth has been very gradual.

On April 9th, a small piece was removed by means of scissors. Free oozing of blood followed, and the hemorrhage was checked by perchloride of iron locally applied. This portion removed was examined by Dr. Caven, pathologist to the hospital, who reported it to be papillomatous in character.

April 19th. Dr. Covernton, assisted by Dr. Dickson, proceeded to operate. Chloroform was administered. Two curved gilded needles were attached to the negative pole of a galvanic battery, the positive pole was applied over the lower cervical vertebræ, and with the strength of five milliamperes the needles introduced into different parts of the growth, leaving them inserted for a few minutes in each part; the whole mass was treated in this way, with the result that it was rendered perfectly soft and spongy, whereas on the first introduction of the needles it was comparatively firm and tough. After complete softening was thus produced, the softened mass was then very slowly removed by means of a gilded spear-shaped needle, which, under action of the current, was made to cut its way very gradually through the disorganized tissues. The growth was in this manner entirely extirpated, leaving a charred, somewhat depressed surface at the original site of the tumor. The whole operation lasted an hour and a-half.

April 26th. The tongue has healed nicely. There has been no undue swelling about the parts, in fact, no appreciable swelling at all. There is a slight irregularity in the surface of the tongue in the position of former tumor, otherwise the tongue presents a normal appearance.

TWO CASES OF PERICÆCAL INFLAMMATION*.

IN TORONTO GENERAL HOSPITAL UNDER THE CARE OF A. M'PHEDRAN, M.B., PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF TORONTO.

Case 1.—R. M., æt. 18, male, single. An operative in a shoe factory; thinks his illness was caused by jumping, alighting on a hard floor. Previous history good, never had any other illness.

On Tuesday evening, March 25th, 1890, the patient was seized with a sudden sharp pain in the right side of the abdomen, so acute that he was hardly able to walk. The following morning he was somewhat better, and returned to work, but the pain became so severe that he knocked off about noon. On Tuesday he again attempted work, but with a similar termination. On Thursday evening he took to bed, and summoned medical aid. At this time he was feverish, his temperature reaching 102° F. Heretofore his bowels had been regular, but they then became constipated, and remained so until Saturday, when they were moved by some powders, left by his physician. Other than the symptoms above mentioned he says he had none—no headache, no loss of appetite, none of the other symptoms so often present in typhoid fever.

Not improving he entered the hospital on Monday, March 31st. At this time he complained of pain in the right iliac fossa. There was a good deal of general abdominal distension; on palpation there was marked tenderness in the right iliac region, with a distinct hardness; on percussion, a dull note with a slight tympanitic resonance was elicited. This dullness extended inward to within an inch of the median line of the abdomen, and upward to from half to one inch above the iliac crest. The tympanitic note was, no doubt, due to the bowel lying in front of the inflammatory exudation; temperature, 102°; pulse, 100. The temperature gradually fell to normal, from which it varied but little thereafter. The pulse did not at any time during the attack exceed 100. His respirations, on the second day after admission, reached fifty-two per minute. After that they were little above the average. Poultices were applied until

* Reported by M. W. Barnhart.

the evening of April 6th, when they were discontinued, the pain having to a large extent ceased; morphia had been used when necessary to relieve pain. On April 2nd there was some diarrhœa; on the 4th the catheter was used twice. Later in the day the urine passed naturally. Enemata were given every day or two till the 18th, when the bowels moved naturally. During the next three days he had diarrhœa.

When discharged from hospital, May 10th, the patient was much improved. Over the region where the pain and tenderness existed, there was still slight dullness and some considerable amount of thickening could be felt. No tenderness even on deep pressure. The patient's bowels were regular, tongue clean, appetite good, every prospect of a good uninterrupted recovery.

Case 2.—J. G., æt. 23, has always enjoyed good health, except that he has had the usual diseases of childhaod, and typhoid fever, from which he made a good recovery. Family history good.

On Tuesday evening, April 29th, the patient felt a slight pain in the abdomen, which gradually increased, and became very severe about 11 p.m.; in spite of some slight relief obtained by taking brandy, he put in a sleepless night. The next afternoon a physician was called in. The pain and tenderness were found to be limited to the right illiac fossa.

On Tuesday, May 1st, when he entered the hospital, the abdomen was tympanitic; tenderness not general, but limited to the right iliac region, where there was a distinct hardness, with dullness on purcussion; a tympanitic note was associated with the dullness; temperature, 103.2°; pulse, 138; respiration, 30. The bowels, which had been constipated, moved slightly on the day of his admission. Since then he has been troubled with diarrhœa and involuntary movements. The stools were pale and thin. The tongue was furred, with red and angry looking edges and tip. The appetite was poor, and there was some vomiting on the day of his admission. Over the whole body there was considerable jaundice, especially well marked in the sclerotic. He had incontinence of urine, necessitating the use of the catheter several times. The urine, as it dribbled away, stained the skin and bed-linen a deep yellow.

On Saturday, May 3rd, the pain was easier; on percussion there was a distinct amphoric note over the hardness in the iliac region. On Sunday morning, May 4th, he had a chill, and at noon his temperature reached 103.3°. There was still dullness on percussion over the same area as before. As his general condition seemed worse an operation was decided on. The patient was anaesthetized, the abdomen washed off with hyd. bichlor. (1 in 2,000), and an incision made, about six inches in length, the centre of which was on a level with the ant. sup. iliac spine, extending obliquely downward and inward. The skin and fascia were divided, the fibres of the abdominal muscles separated, the hand passed backward behind the peritoneum, when with the aid of a hypodermic syringe, a pocket of pus was revealed; this was opened and about two ounces of pus of a distinctly fæcal odor removed therefrom. A drainage-tube was put in, and the wound dressed antiseptically, the dressing being changed as often as it was found necessary. The discharge retained the fæcal odor till Tuesday, when it gradually disappeared.

The patient died on May 12th, 1890. No autopsy was allowed; enteritis was the probable cause of death.

Clinical Notes.

SARCOMA OF KIDNEY—DEATH—AUTOPSY.

BY J. H. M'CASEY, M.D., C.M., CONCORDIA, KANSAS.

A son of Mr. P., æt. 3½ years, about nine or ten weeks ago, showed signs of failing health, weakness, loss of appetite, anæmia, fretfulness, etc. Slight fulness appeared just above the left lumbar region, posteriorly, which soon showed in front, about the region of the spleen and stomach. Bowels were regular; appetite gradually declined. No fever; no hæmaturia. About two weeks before death occurred, examination showed lungs and liver normal; emaciation; enlargement of abdominal veins. Large tumor over the region of the spleen and stomach, with slight bulging over the upper part of the left lumbar region, posteriorly. The tumor was smooth and dull on percussion. Aspiration yielded negative results, supporting and palliative

treatment was continued until February 9th, when death closed the scene.

The autopsy revealed sarcoma of the kidney weighing four pounds. The tumor was adherent to the adjacent structures, as the spleen, liver, stomach, and intestines.

REMARKS.

Primary malignant disease of the kidney is rare. It is usually unilateral, and is found more frequently during the first decade of life. It occurs with greater frequency before the fifth year. Gross says: "It may be confidently asserted that carcinoma is never witnessed in early life, and at least two-thirds of all examples recorded as cancer should be classed as sarcomas."

We accept the doctrine that cancer is cells which have gone astray, and developed under new conditions. Some authorities maintain that cancer begins in the cortex, and afterwards spreads to the pyramids. Wilks and Moxon are of the opinion that the lymphatic glands outside the kidney are primarily attacked, then the hilus. The latter is probably the correct view. The erroneous idea that malignant tumor formation is a disease of advanced life only, leads a great many physicians to exclude it from the category of infantile diseases. There is a rapid growth of some part of the abdomen, as shown by tape measurement, notwithstanding shrinkage and progressive emaciation in other parts of the body. The primary site of bulging is, therefore, of great importance, as tumor of the kidney will displace other organs upwards towards the thoracic viscera. This was demonstrated in the case just cited. The tumor during life was not located particularly in the renal region, but attained its greatest prominence over region of spleen and stomach. The heart becomes embarrassed; the lung compressed, so that dyspnœa is a prominent symptom during the latter stages of the illness. Usually only one kidney is affected. The right has the preference. Hæmaturia is not found so constantly in malignant renal growths as has been generally supposed. It occurs in about forty to fifty per cent. of all cases, and when found with co-existing tumor of kidney is confirmatory. When the tumor is large, and presses on the internal abdominal vessels, there will be enlargement of the superficial abdominal veins, and anasarca and ascites are not infrequent. The tumor does not follow the movements of the diaphragm. Fever is rarely present, cachexia is common. Pain may be present constantly, or only occasionally.

Personal.

DR. CHAS. O'REILLY, of the Toronto General Hospital, sailed from New York for England, June 4th.

DR. OLDRIGHT, of Toronto, has gone to the sea coast to recuperate. At last accounts he was at Atlantic City, N.J.

DRS. CAMERON AND NEVITT left Toronto for England June 10th. They will spend some months in London and on the Continent.

DR. E. B. O'REILLY is now acting as Medical Superintendent of the Toronto General Hospital during the absence of his brother in Europe.

WE omitted, by a mistake, in our last issue to give the complete list of the Toronto Hospital ..sistants, recently appointed. There were six —three from Trinity: Drs. R. M. Hillary, R. Hill, and E. McCarthy; three from Toronto: Drs. C. F. McGillivary, L. F. Barker, and T. S. Cullen.

DR. GEO. A. PETERS, one of the Demonstrators of Anatomy in the Medical Faculty of the University of Toronto, went to England in May, and a few days after his arrival passed the primary examination for the Fellowship of the Royal College of Surgeons of England. We believe this case is quite without precedent, as we know of no colonist, or anyone else outside of Great Britain, who has gone to England and passed this examination without some special preparation in the United Kingdom. We have much pleasure in congratulating Dr. Peters on his brilliant success. It shows not only what a Canadian can do, but also what a Canadian Medical College can accomplish. There is at present no F.R.C.S., Eng., in Ontario, so far as we know.

Births, Marriages, and Deaths.

MARRIAGES.

KNUDSEN—BARRETT—At the Church of the Ascension, by the Rev. Mr. Baldwin, on the 4th inst., William O. Knudsen, of Alabama, and Florence D., daughter of the late Dr. Barrett.

STARK—ROBINSON—On Saturday, at St. Andrew's church, Rochester, N. Y., by the Rev. Charles G. Snepp, Assistant Rector, William Geddes Stark, M.D., of Hamilton, Ontario, Canada, to Cornelia Louise, daughter of the late Jonathan Robinson.

ELLIOT–ADAMS.—On the 12th inst., at the Church of St. George the Martyr, by the Rev. Prof. Clarke, of Trinity College, Dr. Sydney Barrington Elliot, of Louisville, Kentucky, son of Dr. C. S. Elliot, of Toronto, to Flora McDonnell, daughter of Dr. J. Adams, of Toronto.

MITCHELL—KING—On Wednesday, June 4th, at the residence of the bride's father, by the Rev. Thos. Nixon, Smith's Falls, assisted by the Rev. S. King, grandfather of the bride, Rev. A. E. Mitchell, B. A., of Waterloo, to Miss Alice E. King, only daughter of Dr. John S. King, 236 Sherbourne St.

CLARK–GORDON.—At the residence of the bride's brother, Dr. David Gordon, 646 Spadina avenue, on Monday, June 9th, by Rev. D. Gordon, father of the bride, assisted by Rev. C. W. Gordon, brother of the bride, J. Murray Clark, Esq., of McPherson, Clark & Jarvis, to Greta H., only daughter of Rev. D. Gordon, late of Harrington.

RACEY—CHANDLER—On Wednesday, June 4th, at the Mission chapel, St. John, N. B., by the Rev. Father Davenport, W. R. Racey, manager Merchants' Bank, Woodstock, N. B., and son of the late Henry Racey, of Brantford, Ont., to P. Helen Chandler, daughter of Dr. A. H. Chandler, of Moncton, and granddaughter of the late Governor of New Brunswick.

Obituary.

CARMAN M. GOULD, M.D.—Dr. C. M. Gould, of Colborne, died, after a lingering illness at his home, June 4th, at the age of sixty-three. He was well-known and highly respected in the Township of Cramahe, where he was born, and spent practically the whole of his life. He graduated in medicine in 1853, and was thereafter always a practising physician, although the condition of his health for the last few years interfered with his labors.

Miscellaneous.

NOVA SCOTIA MEDICAL SOCIETY.—The twenty-second annual meeting of the Nova Scotia Medical Society, will be held at Granville Ferry, Annapolis County, on Wednesday and Thursday, July 2nd and 3rd. Dr. Willis B. Moore, Kentville, N.S., is the president, and Dr. W. S. Muir, Truro, is the secretary.

LEGACIES TO THE HOSPITALS OF PHILADELPHIA.—By the generous will of the late George S. Pepper, nearly every charitable institution in Philadelphia is enriched. The following are the more important legacies:

To the University of Pennsylvania, $60,000, for the endowment of a professorship, to be selected by William Pepper, M.D.

To the Hospital of the University of Pennsylvania, $50,000.

To the Presbyterian Hospital, $50,500.

To the Hospital of the Protestant Episcopal Church, $50,000.

To the Orthopædic Hospital, $25,000.

To the Pennsylvania Hospital, $50,000.

To the Hospital of the Jefferson Medical University, $50,000.

To the Charity Hospital, $25,000.

To the St. Joseph's Hospital, $25,000.

To the Children's Hospital, $25,000.

To the Wills Hospital, $10,000.

To the St. Christopher's Hospital for Children, $25,000.

To the Hospital and Dispensary of St. Clement's Church, $10,000.

To the Children's Hospital, Country Branch, $10,000.

To the Maternity Hospital, $25,000.

To the Northern Dispensary, Southern Dispensary, Philadelphia Dispensary, Howard Dispensary, each $5,000.—*Medical News.*