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CANADA

MEDICAL & SURGICAL JOURNAL

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Original Communications.

THE INDUCTION OF PREMATURE LABOR IN THE ALBUMINURIA OF PREGNANCY.*

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The subject I have chosen for discussion this evening is a peculiarly interesting and practical one, owing to the intense anxiety and grave responsibility that must affect a physician when consulted by a pregnant woman, and an examination of her urine shows some considerable quantity of albumen and hyaline casts, knowing full well that this condition, if not relieved, may ultimately terminate in one of the most fatal exigencies of the puerperal state, while the serious responsibility of undertaking as a preventive measure the induction of premature labor cannot be regarded but with some apprehension.

The following brief clinical records are offered in the hope that they may in some degree contribute to the sum of that knowledge which may ultimately accumulate sufficiently to enable us to act with more unerring precision in the always serious and too often fatal cases, and at the same time afford a text for a few remarks I desire to make in conclusion.

CASE I.—A multipara, aged 40, who had been a widow for a number of years, but married again about a year previous to my attendance, her youngest child being 16 years old. When I was called she had had regular labor pains for several hours, but the os uteri was rigid and but slightly dilated. She supposed

*Read before the Detroit Medical and Library Association, Feb. 6th, 1888

that she was about eight months pregnant, complained of frontal headache and slight nausea, but there was no anasarca or dropsical effusions. The nervous symptoms directed me to an examination of her urine, which was found to contain a small precipitate of albumen. The injection of a quarter-grain of morphia hypodermically relieved the nausea, modified the cephalalgia materially, and soon relaxed the rigid os uteri. A dose of Epsom salts was also administered, and acted freely on the bowels. Labor progressed slowly, she being confined six hours after my arrival of a *dead child*. Basham's mixture was ordered, the albumen quickly disappeared from the urine, and the convalescence was as rapid as in any ordinary case.

CASE II.—A vigorous, robust Scotchwoman, mother of two healthy children, and at the time I was consulted was pregnant about $8\frac{1}{2}$ months. During the preceding fortnight she had suffered much from œdema of her feet and legs, and had several attacks of severe headache. When I first visited her, she referred to severe pain in the frontal and occipital regions, but there was no nausea or amaurosis. She was voiding about a pint and a half of urine in twenty-four hours, which was about one-third albumen. A skim-milk diet was ordered, with a vapor bath and a sufficient quantity of sulphate of magnesia to keep her bowels relaxed. The next day all her symptoms were apparently improved: the urine had increased in quantity and the headache was partially relieved. Unfortunately, however, during the following night her symptoms again became aggravated, and about noon the succeeding day, in spite of a vapor bath, which caused profuse diaphoresis, and a dose of salts, which acted freely on the bowels, she had a convulsion. I was sent for immediately, but before reaching her a second convulsion occurred. On arriving, I at once extracted about a pint of blood from her arm, injected half a grain of morphia under the skin, and had artificial heat applied about her body. This was about one o'clock in the day; at three o'clock, becoming very restless, I again injected a quarter-grain of morphia. In a few hours labor pains came on spontaneously, and about nine o'clock that evening I delivered with forceps, the child, however, *being*

dead. She had no more convulsions after the venesection, although she remained unconscious until the morning following her labor. Her after recovery was as good as could be expected.

CASE III.—Reported in *Canadian Practitioner* for January, 1886. A case in which albuminuria, partial suppression of urine, with marked œdema, but no nervous symptoms, existed when I was first consulted. Attempts were made by diet, hydragogues, diuretics and jaborandi to relieve her pathological condition, but on the third day of treatment convulsions ensued. Labor came on spontaneously during the convulsions. The child was born dead, the mother recovered temporarily, but died in about a year later from chronic Bright's disease.

CASE IV.—An old primipara, but a strong, powerful woman, in the eighth month of pregnancy, came in from the country to consult me in regard to extensive swelling of her feet and legs. Inquiry elicited no manifestation of nervous disturbance, but an examination of her urine revealed albumen in large quantities. She was advised to remain in town under medical supervision and treatment, which she did for seven or eight days, during which time her bowels were kept relaxed with bitart. of potash, and her skin was acted upon freely by means of a hot bath daily. At the expiration of about a week she returned home, feeling much more comfortable. Her instructions were to live on milk and buttermilk, to keep her bowels relaxed with salines, and to take a hot bath every other day. I was hurriedly summoned a few days subsequently to her accouchment, and on arriving discovered the child *born dead*. Her labor from its commencement to its termination not lasting longer than three hours, no convulsion occurred, and she made a good recovery. She has since had two living children, but no return of albuminuria.

CASE V.—A Frenchwoman, aged about 40, resided in Pain Court, six miles from Chatham, mother of a very large family. Was hastily called in company with Dr. Holmes, and on reaching the home of our patient found that she was about seven months pregnant and had had two convulsions about an hour apart. Her urine, withdrawn with a catheter, presented a heavy precipitate

of albumen when treated with heat and nitric acid. There was much general œdema, and we were informed that previous to her first fit she complained of severe frontal headache and dimness of vision. One-half grain of morphia was given hypodermically at once, a large dose of Epsom salts was also administered, and artificial heat was applied about her body until she sweat profusely. Under treatment she improved; no more convulsive seizures occurred at that time, all other signs of nervous derangement subsided, and we were in hopes she would progress favorably to her full term. The albumen, however, did not disappear from her urine, nor did œdema entirely leave her extremities. Unfortunately, about ten days afterwards, without any nervous premonitions, she was suddenly seized with a violent convulsion. Before I was enabled to reach her she had several more; fit after fit followed one another with awful violence. Shortly after my arrival, and just as I had commenced to administer chloroform, another severe paroxysm distorted her, during which the foetus was expelled spontaneously. She was kept under the influence of the anæsthetic for a short time; no more convulsions attacked her, but she remained in a condition of semi-coma, which gradually became more profound until death closed the scene some hours after.

CASE VI.—A primipara aged 20. I found this patient, who was nearly nine months pregnant, lying upon a sofa, restless, sightless, unable to give any information concerning herself, and with slight œdema of her legs. I was informed that with the exception of an occasional headache, she had made no complaints regarding her health until the morning I was called, when she awoke with a headache. An examination of some of her urine passed that morning showed a small quantity of albumen. While carrying her to bed shortly after, she had a convulsion. Pilocarpine was injected subcutaneously and chloral per rectum at once; a few drops of croton oil were given later. Six hours after the first convulsion she had a second slighter one, and again in two hours a more severe one, remaining unconscious between the fits. After the third convulsion, the cervix showing no signs of dilating, an aseptic gum elastic catheter was passed carefully

for about six inches between the membranes and uterine wall. To overcome the restlessness, one-quarter grain of morphia was injected under the skin, and this was repeated from time to time when found necessary. The skin was kept moist by hypodermic injections of pilocarpine. She was safely delivered sixteen hours after the introduction of the catheter, there being no more convulsions. The child, however, was dead. Her subsequent progress was good.

CASE VII.—A primipara aged 19, nearly nine months pregnant; had several convulsions before she was seen. There was complete suppression of urine; unable to procure any for examination. Very œdematous. I was informed that she had suffered from headache and dimness of vision for a week or more before convulsions occurred. Efforts were made to control the fits by chloral, morphia and chloroform, but unless profoundly under the anæsthetic convulsions would occur. Labor was then induced by introduction of a catheter and digital dilatation of cervix. A dead child was delivered with forceps, and the mother died two days afterwards apparently from exhaustion.

CASE VIII.—Mrs. F., aged 25. Has had two children and a miscarriage, and when my colleague, Dr. Holmes, was consulted, was $7\frac{1}{2}$ months pregnant, suffering from swelling of the face, hands and feet, severe pain on one side of the head, and vomiting. Urine abundant in quantity, but one-quarter of the tube precipitates after heat and nitric acid. Her previous labors had been normal. A hydragogue cathartic was given, which purged thoroughly. She was also made to sweat freely, and one-quarter grain of morphia was administered to quiet nervous symptoms. The following day her symptoms were much improved, the swelling had abated some, the vomiting stopped, and there was no pain in the head. The specific gravity of the urine was 1022. The quantity was less, and the amount of albumen which coagulated in the tube had increased. Notwithstanding, it was decided, after a consultation, advisable to induce labor, which was accomplished by passing a catheter as in the other cases. Pains commenced about six hours after the catheter was intro-

duced, when it was removed by the nurse, and the pains ceased for some hours; the same instrument was again introduced, pains soon set in, and terminated labor without any accident in about eight hours, the child *living*. The mother made a perfect recovery.

CASE IX.—Mrs. M. W., aged 24, an anæmic primipara. At the beginning of the eighth month of pregnancy she observed some partial suppression of her urine, and at times suffered from slight headache and nausea, with occasional attacks of impairment of sight and some cedema of face and lower extremities. An examination of her urine microscopically showed hyaline casts, and on boiling and adding nitric acid, the coagulum in the tube was fully one-half of the contents after standing some time. The quantity passed was not more than six ounces in twenty-four hours. She was confined to bed, her skin kept moist, and diet almost limited to milk. A mixture of digitalis and acet. of pot. was given at regular intervals; bowels were kept relaxed, first with a compound jalap powder, afterwards with cream of tartar. This treatment was continued for a few days, elixir of iron and gentian being substituted for the diuretic mixture which disagreed with the stomach, with but slight amelioration of her symptoms, when it was decided to induce premature labor. Pains commenced an hour after the catheter was placed in position, and labor terminated in about twelve hours afterwards. She vomited once during labor, and had a slight hemorrhage for two days following her confinement. The albumen gradually left her urine, and she made a good recovery. The child was alive, and is at present a beautiful, healthy little girl. Three years after, the woman was confined again naturally, no renal symptoms manifesting themselves.

CASE X.—Mrs. J. E., aged 26, was pregnant eight months with second child when she was seen casually. Stated she never felt better, had a good appetite, bowels regular, no oedema, nausea or headache. Thought she passed a quart of urine in twenty-four hours. Specific gravity 1030. The tube contained one-sixth albumen after treating in the usual method. Hygienic,

dietetic and medicinal treatment were instituted in this case and continued for about ten days, but with no effect upon the character of the urine, and without preventing indications of serious disturbance of the nervous system. It was then considered advisable, both for mother and child, to excite premature labor. A catheter was used as in former cases. It was inserted about eight o'clock in the evening; during that night there were but slight pains. The amniotic fluid escaped the following morning about nine o'clock, shortly after which pains set in and concluded labor the same evening at 10 o'clock. The patient felt very well for two hours; afterwards she had a slight hemorrhage and became somewhat restless. While using a hot intra-uterine douche she had a moderately severe convulsion, followed shortly by a prolonged shivering spell. Her temperature immediately rose to 104°F., and pulse 160. Morphia half a grain, with atropia 1-100 grain, was injected subcutaneously; brandy, digitalis and antifebrin given by the mouth. The pulse and fever rapidly fell, and by morning the temperature was normal and pulse 100. From this time recovery was speedy, with the exception of a distressing headache for a day or two. Within a week the albumen disappeared from the urine. The child was alive, and has grown to be a fine healthy boy.

The last three cases were under the care of my partner, Dr. Holmes. I had the opportunity of seeing them frequently in consultation, and through his kindness I am permitted to add them to this paper.

CASE XI.—Mrs. B., aged 24, primipara. When I was first consulted she was nearly eight months pregnant, suffering from an agonizing headache, disturbance of vision, nausea, and œdema of eyelids, hands and lower extremities. She supposed she was passing about a teacupful of urine in twenty-four hours. Sweating was at once induced with jaborandi and artificial heat, and a hydragogue which acted quickly upon the bowels. A large dose of bromide of soda was also given. During the three following days her bowels were kept freely open with hydragogues and her skin active by the application of heat about her body. The nervous symptoms subsided, the œdema also to a certain

extent, and the urine on the third day increased somewhat in quantity, but the albumen coagulated fully seven-eighths of the urine tested. On the afternoon of the third day after treatment had begun she got out of bed and sat in a warm room for a few hours, when she was suddenly seized with a severe pain in the epigastric region. Carminatives and soda failing to relieve her, she was given hypodermically one-eighth of a grain of morphia, which was repeated in an hour. The following morning, not having passed urine for twelve hours, and twitching of the facial muscles being quite marked, a catheter was introduced into the uterus. About three hours subsequently, intermitting groans from the patient indicated that labor had commenced. Sixteen hours after steps were taken to induce uterine contractions she was delivered with forceps of a living child. After the injection of morphia for the epigastric pain referred to she continued in a state of semi-consciousness until about twenty-four hours after her accouchment. During her labor muscular twitchings occurred frequently, and as the head of the child began to press upon the perineum a convulsion occurred. The forceps were immediately applied and the child delivered as rapidly as was judicious. One-third of a grain of morphia was injected hypodermically, and she was kept partially under the influence of chloroform until all twitchings ceased. After recovering consciousness she suffered severely for several days from pains in her back and head. These were relieved temporarily by 15-grain doses of antipyrin. Within fifteen minutes after taking the drug she would pass into a quiet sleep. She commenced to pass from one to two quarts of urine daily almost immediately after the birth of the child, and within a month the albumen had disappeared from the urine.

Remarks.—To recapitulate briefly, of these eleven cases of albuminuria, nine mothers recovered and four children were born alive. One case in which convulsions did not occur was not seen until labor had set in naturally; the mother made a good recovery, but the child was still-born. In the four cases in which temporizing measures were instituted until labor came on, convulsions occurred in three, one mother died, and three recovered; the child perished in all four. In the two cases in

which labor was excited after convulsions occurred, both children were born dead, one mother recovered, the other died. In the four cases in which labor was induced after a temporary trial of expectancy, but before convulsions took place, all the mothers made good recoveries and the four children lived.

The question of when to induce premature labor in these cases is *sub judice*. Whenever discussed, there is usually great diversity of opinion expressed. Some eminent authorities, such as Fordyce Barker and Playfair, maintain that it should be undertaken only in a limited number of cases, and that in these exceptional cases the indications must be confirmed by other symptoms than that which are to be discovered by an examination of the urine. This advice may be adaptable to a city practice, among the intelligent and the rich, where the most careful supervision can be maintained and attention to the smallest details is carried out religiously and systematically. In country practice this is often impossible; a physician is seldom consulted by a pregnant woman until called to her accouchment. Headache, nausea, slight swelling of the feet and legs are symptoms so commonly met with in pregnant women, that the ignorant, knowing nothing of their significance in some cases, pay but little heed to them until the fatal paroxysm occurs, when the obstetrician may be miles away, with almost impassable roads between him and his patient.

The great difficulty in many of these cases is to know when the time arrives for expectancy to cease and surgical measures to begin. The quantity of albumen in the urine is no certain criterion of the extent of the toxæmia existing; in some of the most alarming cases there are but slight traces of albumen, in a few, I believe, none at all; in *Case V* of my series, the urine passed about two hours before a convulsion, and when she was suffering from a severe headache, did not coagulate more than one-tenth in the tube after boiling and adding nitric acid.

In a recent lecture by Dr. Whitaker of Cincinnati on chronic Bright's disease, which will probably hold good in cases of albuminuria of pregnancy to a degree at least, it was pointed out that the nervous symptoms showed themselves in inverse

proportion to the dropsy. That the dropsical effusions form reservoirs for the excess of urea not eliminated by the kidneys: hence the amount of œdema or dropsical effusion present will not give any definite indication for interfering surgically, as some of the most urgent cases may present but very little swelling of the body.

Again, it has been stated that labor should never be induced until the nervous sentinels give the alarm, but I have seen two cases at least of convulsions, one of which ended fatally, in which the nervous premonitions preceded but a few minutes the onset of an eclamptic seizure. One of these cases, read before the Canadian Medical Association in 1885, was a young pregnant woman apparently in robust health, who while taking a bath on a summer's day, about two hours after a hearty meal, became suddenly sightless, reeled, and almost immediately became unconscious and went into a convulsion. Another case, seen with Dr. Pomeroy of Dresden, was a young primipara, about seven months advanced in pregnancy, who arose and dressed herself one morning, milked several cows, prepared her husband's breakfast, and seemed perfectly well. During that meal she spoke of a headache and almost immediately had a fit. In spite of our efforts the convulsions continued, and she died in about twenty-four hours.

Judging from cases like these, it is manifestly unwise to await the appearance of nervous signals before resorting to the induction of premature labor. The evidence, therefore, of the approach of convulsions must be uncertain and unreliable, and if we cannot obtain satisfactory indications from the urine, it is certainly not always safe to remain inactive till nervous disturbances become pronounced.

I believe it to be also indisputable that the albuminuria is due to mechanical and other causes consequent upon the pregnant condition. This is shown by the rapid disappearance of albumen and increase in the quantity of urine immediately after the delivery of the child, except when the kidneys have received irreparable damage. Therefore if these causes are removable by a procedure almost devoid of danger, if carefully undertaken

and carried out, and in view of the desperate outlook presented by these cases from permanent damage to the kidneys, albuminuric retinitis, with, may be, permanent impairment of vision, anæmia, exhaustion and eclampsia, I am convinced of the necessity for the regular and systematic examination of the urine of all pregnant women, and if albumen be found, with hyaline casts and a deficiency of urea, of the advisability of inducing premature delivery when pregnancy has advanced to or beyond the seventh month, and the symptoms do not immediately and substantially improve under treatment.

This rule would not apply to cases of pregnancy occurring in chronic nephritis, which would be differentiated by a microscopical examination of the urine, and in which surgical interference might prove dangerous. Moreover, in true nephritis the nervous centres acquire a certain tolerance and eclampsia is not then so likely to occur.

Nor yet do I think it would be wise to at once resort to the procedure if one be not called to a case until nervous phenomena such as headache, disturbance of vision, etc., are present to a marked degree. It would be safer, under these circumstances, to first act upon the various emunctories, eliminating as much of the poison as possible, and by appropriate sedatives allay nervous irritation to an extent that uterine pains would not be an additional factor in the production of an eclamptic attack.

Even in those cases in which expectancy is carried out successfully as regards the mother, who after a most anxious season of doubt and fear escapes unscathed, the danger to the child is so imminent as to receive our serious consideration.

The instructive paper by Drs. Charpentier and Butte at the Washington Congress, on experimental uræmia, pointed out conclusively that the child might be killed by a direct intoxication of the maternal blood surcharged with urea; the clinical history of my cases bears out the experimental research in a most emphatic manner. Out of my eleven cases the child survived in only four, and in these labor was induced. This is, I think, a powerful argument in favor of the production of premature labor in the albuminuria of pregnancy.

One of the strongest objections to this measure is the fact that it does not always prevent convulsions, as in the last two cases of my series. I believe, however, that if, in these cases, interference had been invoked earlier the convulsions would not have occurred, and that the induction of labor is too often delayed until an extreme irritability of the nervous centres renders convulsions unavoidable.

In conclusion, it is known that many processes observed in disease are of a conservative nature—*e.g.*, the sweating in rheumatic fever, the diarrhoea from offending matter in the alimentary canal, the vomiting from indigestion, and, as Dr. Whitaker has pointed out, the oedema in albuminuria. It is fair to conclude that the frequency of spontaneous expulsion of the foetus in puerperal albuminuria is of the same nature, and should direct our attention to this the natural way to recovery. In six cases of the series here given labor came on without assistance, two before and four after convulsions took place. It would appear from this that we are only following in nature's wake in resorting to surgical interference in these cases.

QUARTERLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

PREPARED BY WM. GARDNER, M.D.,

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Results of Supra-vaginal Hysterectomy, with Remarks on the old ways and the new of treating Uterine Fibroids, by Dr. Thomas Keith, Edinburgh.—This is the title of a paper appearing in the *British Medical Journal* for Dec. 10, 1887, and in it Dr. Keith gives the results of his last 26 cases, making a total of 64. The first 38 were published in a brochure appearing some years ago. The series shows a striking difference in private and hospital work. Of the last series of 26, all patients operated on outside the hospital recovered. The fatal cases were all in the hospital. Of the whole series of 64 cases, 26 were private cases with one death (3.8 per cent.) from acute mania. Of 38 hospital patients, 6 died, or 15.7 per cent. The private patients had larger tumors, and they were more drained by hemorrhage

than the hospital cases. The reason alleged being that they are better able to take care of themselves, and do not need interference so soon. Of the whole number of hysterectomies, five suffered from acute mania. When the attack followed quickly on the operation, the patients died; if during the convalescence, they recovered. In some of the last series the intra-peritoneal method of treating the pedicle was employed, and Dr. Keith claims for it the best results, although he does not give the proportion of the whole so treated or describe the method employed. The average time of convalescence in the extra-peritoneal or clamp cases was 41 days; of the intra-peritoneal, three weeks. With reference to enucleation, Dr. Keith remarks that it has given him the smallest mortality of all the operations for myoma. He has lost only two of many operations. He considers it the most difficult of all the operations on the uterus. He says there is a secret in its performance, but does not tell us exactly what that is, but says that it must be completed at one determined operation. If the os uteri be not open, it must be freely divided and afterwards sutured if necessary. Rigid antisepsis is essential. He concludes his remarks on this operation by saying that "it requires greater care, greater patience, and greater endurance than any operation I know." For his statistics of supra-vaginal hysterectomy, Dr. Keith claims, and I believe justly, that they are the best yet published, and this lends the greatest possible interest to what he next says on the Apostoli methods of treatment of myoma. I transcribe his remarks in full:—

"Fortunately for those affected with uterine tumors, it now matters little which of the old ways of operation is the best, whether the ovaries can be removed or not, whether the extra- or intra-peritoneal be the better way of performing hysterectomy, or whether the convalescence lasts in the one case six weeks or in the other twenty days, the treatment introduced by Dr. Apostoli must take precedence of all others. The success of this treatment is a great fact, and in saying that I accept *toto animo* his teachings. I do not speak without some experience of his practice. We have already—my son and I—in scarcely five months, applied electricity in strong, accurately measured doses

upwards of 1200 times, in considerably more than one hundred patients, the majority in cases of uterine fibroids. The labor has not been small—indeed it has been very hard—and it is not easy to get the science of the subject into an old head. On the other hand, it has opened out a delightful study, which increases in interest every day the deeper we get into it. When I came back from my holiday in the beginning of July, there were waiting for me several cases for hysterectomy or for the removal of the ovaries for bleeding fibroids, and there have been others since. These have all gone home without operation, and with menstruation almost normal, improving after their return, and with the tumors in every case reduced in size, with pain gone, and with a freedom to walk about and enjoy life such as they were long strangers to. In one case only has there been a return of hemorrhage. The tumor had gone down two-thirds, she was apparently well, and, unwilling to detain her longer in town, she was allowed to go home too soon. All were more than pleased to have escaped the risks and miseries of a surgical operation that at once put their lives in peril. We—every one of us—consider far too lightly the miseries that such operations cost our patients and their friends.

“Should these improvements be permanent (and we have Dr. Apostoli’s word for it that if the treatment be carried out long enough such is generally the case, and, so far, I am able to endorse almost every statement that he has made), it follows that the field for hysterectomy and for the removal of ovaries for fibroids is narrowed down to the smallest limits. I have never been in favor of hysterectomy, simply because its death-rate is so high and because it is performed for the removal of a tumor that rarely kills. So strongly do I now feel on this subject, that I would consider myself guilty of a criminal act were I to advise any patient to run the risk of her life—and such a risk—before having given a fair trial to this treatment, even were I sure that the mortality would not be greater than that which hysterectomy has given me in my private cases—under four per cent.”

I believe I am safe in saying that such testimony from such

a man as Keith, and with such a record, will do more to popularize the Apostoli treatment than anything else hitherto written in the English language. I may add that for several months past I have been trying the treatment in myoma and the other conditions in which Apostoli advises it, and so far with most encouraging results, some of which I hope shortly to publish.

On a New Treatment by Electricity of Peri-uterine Inflammation.—This is the title of a paper read by Dr. Apostoli in the section of Obstetrics at the last meeting of the British Medical Association, held in Dublin last August. After alluding to the complex nature of the inflammations of the structures about the uterus and the frequently futile results of the ordinary methods of treatment, and referring to his previous communications on the subject, the author first speaks of acute perimetritis. He justly remarks that it is the common feeling of the profession that a palliative treatment is all that can be adopted in this disease, and that usually all that is done is to order soothing applications to the abdomen. He protests against this, and claims that by electricity good can be done in calming pain and arresting inflammatory action. He faradises every woman suffering from acute inflammation, observing the following precautions :

(a) I proscribe every faradisation that would cause the least pain, and expressly that of quantity, engendered by the bobbin with short and thick wire.

(b) I use for such cases the bobbin with long and thin wire, from which I obtain a current of tension, on account of its specially anodyne effects.

(c) I begin with a simple vaginal application, by means of a large bipolar electrode, the point of which is placed against the inflamed part.

(d) I only employ a current easily bearable, so as to cause no suffering nor any excitement of the patient, as this would ensure an entire failure of the treatment.

(e) All the success of this medication depends upon making the first sittings sedative, so that they may serve as a prelude to more active measures ; and the faradisation will only become hyposthenic on the double condition of its low intensity and its long duration.

(f) Each sitting should last five, ten, fifteen, twenty or twenty-five minutes, as may be required, and should not terminate before the patient spontaneously declares that she is better and suffers less.

(g) It is necessary to reinforce what has been said by dogmatically averring that no success will come out of this treatment unless it be managed, not only without violence, but with extreme gentleness.

(h) Every faradisation should be preceded and followed by a vaginal irrigation with the sublimate solution, and all the sounds be scrupulously disinfected.

2. *The Subacute Stage.*—As soon as the sound can be introduced into the uterus without much pain and without danger, I consider this stage to have set in, and it requires some alteration in the treatment. Intra-uterine medication is now necessary, its force being increased gradually. It is here that we can advantageously combine faradisation with the continuous current.

(a) I recommend, first, bi-uterine faradisation, because we desire to prolong in the uterus the same anodyne effect that we sought for in the vagina. We must therefore faradise the uterine cavity. The current must always be that of tension. The intensity is increased by advancing the bobbin, and this must be done as softly as possible, without any jerking, till we reach the limits of personal tolerance. Every day the current may be repeated, until an evident amendment is taking place and the inflammation is giving way. This will be the indication for still more decided action, when we must call to our aid the constant galvanic current.

(b) The use of the intra-uterine galvanic current, in small but gradually increasing doses, is the second part of the treatment which we have to offer to the patient, with a view to more rapid progress in the cure. Here the action is purely chemical, dynamic and stimulant, and intended to stop any tendency to suppuration, and to accelerate the absorption of the morbid deposits.

We must begin with short sittings of only three or four minutes, with an intensity of not more than twenty to forty

milliampères. After a while both dose and time may be augmented, and we have no better guide to trust to than the ease with which the patient can support the intra-uterine cauterisation. The most exact care must be taken not to transgress any of the rules I have laid down for the safe performance of the operation, never omitting the diligent observance of every anti-septic precaution.

One or two sittings a week may be made, regulating the intervals by the strength and condition of the patient. Rest in bed after each operation must be enforced.

The early cauterisation should be with the positive pole, as it occasions less congestion than the negative.

The negative cauterisations, having a greater derivative power, must, however, be brought to bear as soon as we can make out, by the way in which the action of the positive pole is tolerated, that they can be aptly and beneficially employed.

The surgeon must never lose sight of the fact that, with his patient on the confines of an acute stage of disease, he is handling a curative agent which, while capable of rendering great service, may also by indiscreet and inexperienced usage do her grievous mischief.

To sum up this part of the subject: These two stages of acute and subacute perimetritis are difficult to overcome, and our great effort must be to get rid of them and to place the patient in that chronic state in which our action will be more clear and definite."

3. *The Chronic Stage.*—While enjoining much caution in the electric treatment of the acute and subacute stages, in the chronic stages Apostoli advocates bolder use of the agent. Now the intra-uterine galvano-cauterization must be pushed to its highest pitch and then the vaginal negative puncture of the mass of inflammatory exudation. This is to be done with all antiseptic and other precautions. The immediate result within the first few hours is some intestinal and uterine pain, which subsides rapidly. Rest in bed for two or three days is desirable, if possible, but the author's experience shows that it is not absolutely necessary. In two or three days the pain and tenderness are diminished and the pelvic obstruction lessened.

The use of an anæsthetic will often be desirable, because punctures are more painful than cauterizations. But in many this is not necessary, or may be replaced by a full hypodermic of morphia. If the anæsthetic be used, a high intensity ought to be used—50 to 250 milliampères; the duration five to ten minutes. The best time of the month is midway between the menstrual periods, but this is not essential. The frequency of application will depend on the case; sometimes one is enough; in general cellulitis eight or ten may be needed. The site of puncture must be in the most prominent part of the mass as felt through the vagina, and as close to the uterus as possible. The mass is usually either lateral or posterior. As much as possible the punctures should be in the posterior parts, avoiding any part where arterial pulsation is felt. Platinum is not essential for the material of the trocar; steel answers better, and is not attacked by the negative pole. The depth of the punctures may be slight, as efficiency is not increased by the depth, and there is less danger of wounding the peritoneum or blood-vessels in slight punctures. The most perfect antiseptic precautions should be used. The vagina is to be washed out with sublimate solution, and on completing the operation a plug of iodoform gauze introduced to further secure antisepsis and to prevent coitus. The author sums up as follows:

1. Electricity in the form of faradic currents of tension can and ought to be made to calm the pain at the outset of an acute attack of perimetritis, and is a sedative of the first importance in abridging the first stage of inflammation.

2. The continued current is a power which we use in two ways: first, in the form of intra-uterine chemical galvano-cauterizations, to cut short the acute stage; second, as vaginal, negative, galvano punctures, to get rid of the chronic condition in all its forms and stages.—(*Brit. Med. Jour.*, Nov. 19, '87.)

On Some New Applications of the Induced or Faradic Current in Gynæcology, by G. Apostoli, M.D.—Dr. Apostoli claims for France and for Dr. A. Tripier of Paris priority in the employment of the induced current in gynæcology. Tripier believes that all inflammatory conditions of the uterus arise from

interstitial or intra-vascular inertia, and that this inertia, mostly post-puerperal, deranges the circulation and causes congestion and stagnation, and arrest of nutrition of the organ. By the artificial stimulus of faradisation he claims to excite and reestablish the circulation and attain the double end of cure and prevention. In this exclusive pathology Tripier overlooked the influence of septic causes in producing pelvic disease. Apostoli claims to have demonstrated that it is mainly from lesions of the mucosa that by continuity the parenchyma of the uterus is involved. He claims also to have shown that although the faradic current is all-powerful in relieving the early and purely mechanical forms of congestion, as in cases of simple subinvolution, it is, on the other hand, useless in chronic forms and in affections of the mucosa. This is accounted for in very chronic cases by the partial disappearance of muscular fibre and its replacement by connective tissue, which is not acted on by the induced current. When the mucosa alone is at fault, then the continuous current is the agent to select.

Tripier's method of faradisation was by applying one pole to the interior of the uterus and closing the circuit by an electrode to the hypogastrium. Apostoli's method is a bipolar sound to the interior of the uterus. By this method he claims that there is less pain; it is easier, as no assistant is needed to hold an electrode to the hypogastrium; it is less painful and the dosage may be increased; and, lastly, the effect is greater, as, other things being equal, the therapeutic effect is in proportion to the intensity of the current. Another and most important improvement claimed by Apostoli is the methodic employment of the current of tension as distinguished from the current of quantity. No apparatus for faradisation is complete without two independent bobbins or coils, which, according to the length and thickness of the wires, give currents differing in qualities and characters. The coil with short, thick wire gives the current of quantity, because the generating wire is less resistant and lets pass a greater quantity of electricity. This current is the direct excitant of muscular contractility, and is the only one employed by Tripier to overcome muscular inertia, to produce a temporary

vascular activity, and to carry out his treatment of uterine congestion. The other coil, with a longer and finer wire, is called the bobbin of tension. This current acts less on muscular contractility, but acts more on sensibility. It is therefore employed where pain is a prominent symptom, in order, by a contrary reaction, to deaden a too violent nervous vibration. Such revulsive action on the skin is no novelty, but as yet too little resorted to in gynæcology. Pain is perhaps the most frequent symptom which leads women to seek for relief. In examining the sources of such pain, it is found to be inflammatory or nervous. It will be admitted that most routine treatment for such pain is useless or only palliative. For such pain many women have been needlessly mutilated by the removal of their ovaries and fallopian tubes, and often, it must be added, uselessly. Such pain can often, it is claimed by Apostoli, be cured by electricity in this form of the faradic current of high tension from the coil of long thin wire. It will, he asserts, cure 19 out of 20 cases of nervous ovarian pain; while inflammatory pains may in many instances also be mitigated, if not cured. For this purpose the applications may be made either intra-uterine or intra-vaginal, always bipolar—that is, both poles in one electrode. The intra-uterine bipolar electrode is a sound so constructed that both poles exist in the instrument within three-quarters of an inch of each other, and the current is completed by contact with the mucous lining of the body of the uterus, against which the sound lies when it is introduced. The vaginal bipolar electrode is constructed on similar principles, but is bulbous. When practicable the intra-uterine method is to be selected as the most active, but in pregnancy, certain cases of virginity, and in the acute stage of peri-uterine inflammation, it is not practicable. The length of the sitting, whether five or 20 minutes, is an essential condition to success. It must not end till the pain is relieved or has disappeared. The sittings should be frequent, daily or twice daily. The number of sittings will vary. They must sometimes be numerous, but often two to five are sufficient to relieve pain that has lasted years. The dosage or intensity is determined by the sheathing of the bobbin according to a graduated scale.

If the uterus is healthy we may be bold in increasing. In inflammatory conditions we must be cautious.—(*Brit. Med. Jour.*, Jan. 14, 1888.)

QUARTERLY RETROSPECT OF SURGERY.

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SURGERY OF GALL-STONES.

Cholecystotomy.—The need for the performance of cholecystotomy may arise from the impaction of a gall-stone in the cystic duct, or from closure of this duct in some other way when a distended gall-bladder has to be dealt with, with contents not necessarily bile, but a serous, sero-purulent, or purulent fluid. When the gall-bladder is much distended there is a danger of its rupturing into the peritoneum. In such cases operative relief is demanded. Usually the operative procedure is easy; the distended gall-bladder allows plenty of room for the extraction of stones, or its stretched walls can be readily sutured into the abdominal wound. In the hands of experienced operators the risk is small. Two cases reported by Mr. Knowsley Thornton (*Brit. Med. Journal*, Nov. 26th, 1887), where the gall-stones had passed into the common duct, and where the gall-bladder was small and shrunken, presented unusual difficulties. The first case was that of a lady aged 45, who had had several attacks of severe pain in the region of the liver and vomiting. When Mr. Thornton saw her with Dr. Geo. Johnson she was deeply jaundiced, anæmic and emaciated, and suffered from constant pain deep down in the region of the gall-bladder and in the back. No special projection of the gall-bladder, but on deep palpation, which caused severe pain, a hard angular body was distinctly felt. Diagnosis, stone impacted in the common duct. Operation was advised. An incision three inches long was made over the gall-bladder; the gall-bladder was so atrophied and surrounded by adherent omentum and small intestine that it was thought to be non-existent. A stone was felt in the common duct, and after scratching through the omentum the gall-bladder was found. It was carefully packed round with carbolized sponges and about

a drachm of muco-purulent fluid drawn off by aspiration. The puncture was enlarged and the finger introduced; the gall-bladder was so shrunken that it would only admit the index finger. The opening of the cystic duct could be felt, and through this a probe was passed which easily detected the stone in the common duct; the cystic duct was now carefully dilated till the finger could be passed through it and the exact size and situation of the stone felt. After a great deal of trouble the stone was broken up by probes, forceps, etc., and then extracted with long forceps. This part of the operation took an hour and a half, and the gall-bladder was so much torn and bruised by the forceps with which it was necessary to hold up the two sides of the opening into it, that it was found impossible to stitch it to the abdominal wound. So after sponging it out carefully with a solution of sublimate (1 to 1000), Mr. Thornton determined to carefully close the wound in the gall-bladder and leave it free in the peritoneum. This was performed with great difficulty, the torn edges of the adherent omentum being utilized to get a hold for the stitches and thoroughly close the wound. On sponging out the peritoneum it was found that some bloody serum had oozed down into the pelvis, so an opening in the abdominal parietes was made immediately above the pubes and a glass tube introduced. Another glass tube was put in the wound over the gall-bladder; the mouth of each tube was surrounded by dry carbolized gauze, and each had its rubber sheet filled with carbolized sponges, which were changed every twelve hours under the spray. A considerable amount of fluid, more or less bile-stained, was evacuated by a glass syringe with a piece of rubber tubing on the nozzle. The case eventually did well, and patient returned home cured in six weeks. Convalescence was somewhat retarded by an attack of asthma, which displaced the tubes. When last heard of she had gained some twenty pounds in weight. The second case was also a difficult one, a woman aged 56; frequent attacks of pain and vomiting, jaundice, and emaciation. The operation revealed matting of the omentum and intestines over the gall-bladder, which made it very difficult to reach. A stone was found in the cystic duct, and when this was removed two large ones were found in the common duct. The gall-bladder

was with difficulty stitched to the abdominal wound, and a small red rubber drain introduced deeply into the common duct. The tube was removed on sixth day. The patient suffered considerable pain in the region of the gall-bladder, and had some elevation of temperature, but no bile came away after the first month, and she was sent home in six weeks and is now in good health. Mr. Thornton remarks that when we have to deal with a distended gall-bladder and a stone impacted in the cystic duct the operation for its removal is easy. The bladder is carefully surrounded with carbolized sponges and aspirated. When empty it is incised and opened, then its stretched walls are easily held forward outside the abdominal incision, and the necessary manipulations carried on in a large cavity and without risk of any remains of the fluid contents fouling the peritoneum. But it is very different when the gall-bladder is shrunken and the edges of the incision cannot be brought out of the abdominal wound; the risk of fouling the peritoneum is much greater. This difficulty is much increased if the individual be stout. Mr. Thornton has never removed a gall-bladder, but he thinks this operation less dangerous than either dragging a small bladder to the abdominal wound or suturing it and dropping it into the abdomen.

In the *British Medical Journal* of January 21st, 1888, Mr. John W. Taylor of Birmingham reports a case of *Cholecystotomy for Gall-stones*. The patient was a woman aged 42, who had for four or five years noticed a swelling on the right side of the abdomen. This grew suddenly larger about eight months previously. Had had eleven children, youngest 20 months old. No history of jaundice or acute colic. The tumor was situated in right hypochondriac and umbilical regions, freely movable, and careful palpation elicited a vibratory thrill. No true fluctuation. Case was diagnosed as one of distended gall bladder. The edge of the liver overlapped the tumor. Abdomen opened on outer side of right rectus, over the most prominent part of tumor; beneath the peritoneum the liver was met with, but by pressing up the tumor a portion of distended bladder was seen. This was tapped and a pint of clear gelatinous fluid evacuated. The puncture was enlarged and the finger introduced into the gall bladder; several loose stones were removed from the bladder

and one was wedged into the cystic duct, which could not be removed with the forceps at hand, so it was left. The wound in gall bladder was sewed to the abdominal wound, a large opening being left, and into this was placed a large-sized rubber tube. Through this tube the gall bladder was washed out morning and evening with warm water. On the fourth day the returned water was tinged with bile, showing the cystic duct was becoming free. Sixteen days after the operation a pair of Lister's forceps was introduced into the gall bladder; the stone was found quite loose, it was broken and the fragments easily extracted. The debris was then syringed out. Patient left hospital eight days after with gall bladder and duct perfectly free.

In this case Mr. Taylor was induced to make use of the stream of water because he had seen its benefit so often in impacted wax in the ear. The use of delicate forceps in this case was of great value.

Dr. W. A. Mackay of Huelva, Spain, narrates an interesting case, in which he removed a stone from the cystic duct (*Lancet*, Dec. 24th, 1887) in a woman aged 40, who was married and had five children. The patient was deeply jaundiced, and was suffering from great abdominal distension; a rounded swelling could be made out in the region of the gall bladder; 400 ounces of fluid drawn off from abdomen revealed the tumor more distinctly. The ascites soon returned, so it was decided to operate. The usual incision was made, the ascitic fluid evacuated, and the gall bladder revealed size of a large pear and filled with sticky bile, opened and finger introduced, and a large stone removed from cystic duct, none in common; fistulous opening remained, which discharged quantities of bile; the discharge suddenly stopped, and she died of exhaustion some two weeks later. Post-mortem revealed cancer of the liver and pancreas, with occlusion of common duct. The sudden stoppage of bile was due to perforation of the common duct.

These cases are not easy to diagnose. It is often difficult to say whether a case of obstruction of the common duct is due to an impacted calculus or malignant disease. Of course when the cystic duct alone is distended, then there is no jaundice. Mr. Tait looks upon all these cases which are accompanied by jaun-

dice as due to malignant disease, but the cases reported above by Mr. Thornton prove the contrary.

Treatment of Gall-stones Obstructing the Intestines.—Dr. Anderson and Mr. Thomas Smith (*Lancet*, Dec. 3rd, 1887) report a case of obstruction of intestines due to the presence of a large gall-stone. Patient, a man aged 65, had suffered for six days from complete obstruction of the bowels, with distension of abdomen, pain and vomiting. He had had several previous attacks of partial obstruction. Medical treatment proving of no avail, laparotomy was decided on. An incision six inches long was made, and search carefully made for point of obstruction. A large gall-stone was found in the small intestine. The intestine was incised, the stone removed, and the wound sewed with Lembert's suture. Patient made an excellent recovery.

In connection with this case, Mr. Lawson Tait, in a letter to the *Lancet*, Dec. 10th, 1887, says that there is a much easier way to deal with gall-stones obstructing the intestines than opening the bowel. It consists in passing a fine needle through the wall of the intestines from below into the gall-stone. The stone is thus easily and immediately split into fragments and passes readily along the intestine, and the grave complication of opening the intestine is unnecessary.

At the meeting of the Clinical Society of London, held Jan. 13th, 1888, Mr. Clutton, of St. Thomas's Hospital, read a paper on a case of *Laparotomy for Obstruction from Gall-stone*. The case was that of a woman aged 70, in which the abdomen was opened on account of obstruction which was thought from the history to be due to impacted gall-stone. On opening the abdomen the stone was found in the lower end of the ileum. Instead of incising the bowel and extracting the stone Mr. Clutton pushed it on through the ileo-cæcal opening and sewed up the abdominal wound. The patient was relieved of her symptoms and made a perfect recovery. The symptoms of obstruction began twenty-four hours before operation with sudden acute pain in the abdomen, with fainting, and on examination, a tumor which has previously existed in the region of the gall-bladder had disappeared. The calculus was passed naturally five days after the operation, and measured $3\frac{1}{4}$ inches in circumference.

At the same meeting Mr. Arthur Barker showed a large gall-stone removed from the ileum after death. It measured four inches in circumference. It had caused complete obstruction, and though it could be pushed upwards from its situation, it could not be forced downwards towards the valve. He considered that there would be no danger in performing laparotomy with a view to crushing the stone by means of a long needle, or even of opening the intestine, removing the stone, and suturing the bowel.

Mr. Heath spoke of the value of systematic manipulation in cases of colic due to renal calculus, and this might also be carried out in cases of intestinal obstruction due to gall-stone. The abdominal walls should be thoroughly relaxed by an anæsthetic, and the bowels should be also deprived of their contractility so as to enable the massage to be thoroughly performed and the stone so manipulated as to be moved onwards towards and through the ileo-cæcal opening. The results of operative interference were not satisfactory.

Mr. Thornton spoke of the success of Mr. Clutton's case, and contrasted it with the tedious and anxious waiting of cases treated by physicians, and thought it would be a good general rule to call for surgical aid when serious symptoms persisted. He spoke with approval of Mr. Tait's method of crushing the stone *in situ* with a pair of padded forceps, and he thought that this method could be applied with but little risk, provided the stone were first dislodged into a healthy portion of the intestine. It would also be possible, by means of a long needle, to fracture a large stone and thus allow the fragments to easily pass the ileo-cæcal valve. The mere pricking of the intestines in a healthy patient is of no consequence.

Obstruction of the intestine due to gall-stone is more common than is supposed. Every pathologist has knowledge of such cases which he not unfrequently meets with in the post-mortem room. Strange to say, the stone may cause symptoms of complete obstruction and death, and yet be a small one, which does not fill the intestine. The method of treatment by laparotomy is a great advance on the old method of masterly inactivity, and the improvements in the operation introduced by Mr. Clutton and Mr. Tait greatly lessen the danger of the operation by doing away

with the necessity for opening the intestines in operations undertaken for such cases.

HYDATIDS OF THE LIVER.

At a meeting of the London Clinical Society, held Dec. 9th, 1887, Dr. Coupland read the notes of a case of *Hydatid Cyst of the Left Lobe of the Liver*, which was cured by operation. The operation was performed by Mr. Pearce Gould. A hydatid cyst the size of an orange was found in the left lobe of the liver. The cyst was punctured, and clear hydatid fluid, containing numerous scolices, evacuated. The cyst wall was then firmly stitched to the abdominal wound, freely incised, and a drainage tube inserted. The case did well, and a few days after operation the collapsed hydatid was extracted; later, the fibrous adventitious cyst. After this the cavity rapidly granulated.

At the same meeting, Mr. Edmund Owen also read a paper on a case of *Hydatid Tumor of the upper surface of the Liver*, successfully tapped and drained across the pleural spaces. The patient was a married woman, aged 34. On first seeing her in May, 1886, there was great fulness in the region of the liver and dulness on percussion reaching from the fourth rib to the umbilicus, right lung greatly elevated and compressed. Hepatic tumor smooth, hard, gave no wave of impulse, and did not move with respiration or with any change of position of patient. Aspirated and removed thirty ounces of clear fluid, which contained no hooklets. In July the tumor was increasing and was again tapped, and sixty-eight ounces of bile-stained fluid came away; this contained abundance of hooklets. In the beginning of 1887 the patient was again admitted into hospital. The tumor had increased so much that there was danger of its bursting into the thorax. Several aspirations were performed with a fairly satisfactory result. Operation was decided on, and it was thought, as the tumor was completely under cover of the ribs, it could be best reached from above, through the diaphragm. An incision was made through the eighth intercostal space, the pleural cavity was opened, and the diaphragm felt bulging along inner surface of chest wall, but the lung itself, completely collapsed, could not be felt. The diaphragm was then incised, and the finger passing

through it felt a tense cyst, from which a considerable quantity of fluid was evacuated by aspiration. When the cyst was relaxed it was drawn through the diaphragm to the skin wound and fixed there with four harelip pins. On the fourth day the cyst was incised and a large flanged tube inserted. The cyst was washed out daily with iodine water. The patient did well, and when last seen the lung had descended to its normal position.

Allusion was made to a case of large liver abscess evacuated through the healthy pleura a few months later by Mr. Rickman Godlee, and where the costal pleura had been stitched to the phrenic pleura.—(*Brit. Med. Jour.*, Oct. 22, 1887.)

Mr. Treves read a case of *Extra-peritoneal Rupture of a Hydatid Cyst of the Liver* in a married woman aged 21. The rupture was caused by her husband hugging her vigorously, lifting her off her feet while doing so. She immediately felt agonizing abdominal pain and became very faint. Twenty-four hours later a swelling appeared under the ribs of the right side. It was dull on percussion, but did not fluctuate, and appeared to be under the skin. The tumor increased in size and became painful, and the patient rapidly emaciated, so the tumor was incised close to the margin of the ribs. Hydatid fluid escaped, and suppuration supervened. The patient died greatly emaciated three months after the injury. Necropsy showed that a hydatid cyst had formed in the posterior part of the right lobe and had been ruptured.

Dr. Angel Money related a case of *Empyema due to Hydatids* that had been under his care. Mr. Macready was called in and excised a portion of the ninth rib. A large cavity was found, in which abundance of hydatids existed; there was a hole in the diaphragm leading into the hydatid cyst in the right lobe of the liver.

In the discussion which followed the reading of these papers, opinions differed much as to the ultimate value of aspirating these cysts, but Dr. Broadbent's explanation of this divergence of opinion was that the prognosis depended largely on the nature of the fluid. When it is clear, and does not contain, as is often the case, numerous daughter cysts, then recurrence will not take place. When, however, the contents consist largely of minor

cysts and *debris*, suppuration or recurrence is probable. In any case aspiration ought always to be performed, for a certain number of cases recover after this operation alone. If operative measures be decided on, it is safe to divide the operation into two stages—one of incision of the abdominal wall and attaching the cyst to it, and the other of opening the sac a few days later. The greatest difficulty in these cases is the early diagnosis; but by a careful use of the aspirator much may be revealed.

SUCCESSFUL EXCISION OF A TUMOR OF THE SPINAL CORD.

In June last a short note appeared in the *London Lancet* stating that Mr. Victor Horsley had successfully removed a tumor from the spinal canal of a patient of Dr. Gowers. The patient had suffered intensely for some three years from pain which was present immediately below and internal to the inferior angle of the left scapula, and was accompanied by absolute loss of sensation and motion of the body and limbs below that level. The upper border of the anæsthesia was distinctly in the region of the fifth intercostal nerve on the left side; on the right it was less accurately defined. All the symptoms pointed to a tumor of the cord, and it was decided to operate. The operation was performed by a long incision in the mid-line of the back, having its centre about the fifth dorsal, down to the spines of the vertebrae; the muscles were cleared off the laminæ and retracted; the spines were removed by fine forceps and then the laminæ trephined; an incision was made through the membranes and the cord examined, but the tumor did not come into sight till the laminæ of the third vertebra had been removed. The tumor was found on the posterior root of the nerve about the level of the third dorsal, and was about the size of the little finger. It was a small oval myxoma, compressing and making a deep impression on the left side of the spinal cord below the third vertebra. It was easily shelled out. The wound in the membranes was not sutured. The wound healed rapidly. For three or four weeks the former acute pain did not lessen, and even at times seemed more agonizing (*Brit. Med. Jour.*, Jan. 28, 1888), but after that it gradually and intermittently decreased, and now after seven months is entirely gone. The sensation and motion

of the body are almost completely restored. The patient was shown to the members of the London Medical and Chirurgical Society at the meeting held Tuesday, January 24th, 1888. This is the first case of the kind that has been published. It has been stated that Dr. Wm. MacEwen of Glasgow has also performed a somewhat similar operation.

OPERATIVE TREATMENT OF EMPYEMA.

E. Rochelt (*Wiener Med. Presse*, 1887, Nos. 32 and 33) says that in operations for empyema the free entrance of air through the incision in the thorax is a hindrance to the expansion of the lung. He himself operates in the following manner: An incision is first made down to the pleura, and a rib is resected sub-periosteally. He then opens the pleural cavity with a trocar, through the lumen of which a tube is pushed, which must be filled with an antiseptic fluid and closed with a compression stop-cock. Then it is connected with the bottle of an aspirator and the pus evacuated. After all the pus has been taken away the bottle is removed and another substituted containing 1 to 5000 of sublimate solution and attached to the drainage-tube, and by elevating and depressing this, water is introduced or taken away from the thorax, and thus the pleural cavity is washed out. Then the drainage-tube is again closed by the compression stop-cock. The tube is then cut off so that it reaches into the cavity, and to the outer end a short piece of hard rubber tube supplied with a thick valve is attached and the stop-cock removed. The wound is now sewed up and antiseptic dressings applied. The pleura can be washed out any time when necessary, and if desired, a drainage-tube may be subsequently introduced. The trocar is 1 cm. in diameter, and the hard rubber tube with the valve is 1 cm. long. With each expiration it allows pus to flow through, but during inspiration it is closed and no air can enter the cavity. Rochelt recommends this method of treatment in all cases of recent pyo-thorax.—(*Centralblatt f. Chirurgie*, No. 1, 1888.)

A SIMPLE METHOD OF OBTAINING CERTAIN ASEPSIS.

Under this heading Prof. Kocher of Berne publishes an article in the *Correspondenz-Blatt für Schweizer Artze. Jahrg. XVIII*,

1888. The simple method consists in the discarding of catgut ligatures and using silk. The burthen of his song is "*Fort mit dem catgut*," as that of Bruns was "*Fort mit dem spray*." He also says "Away with all preparations of gauze." He gives a number of cases treated with catgut, in many of which the result was anything but good; wound infection was common, and healing by first intention was not the rule. When the catgut was replaced by silk, then the results were much different. All the wounds went on well and healed by first intention, and a table of 62 cases where silk was used is appended. In all the cases where primary union could be expected, the wounds healed completely, and without suppuration; a colleague who was visiting his hospital asked him if they never saw any suppuration.

Prof. Kocher advocates the use of glass drains with large holes because they can be so easily cleaned and rendered aseptic. It is his custom in those cases where a drain is needed to remove the tube completely at the end of twenty-four hours, and the stitches at the end of forty-eight hours. He says that the catgut cannot be easily sterilized, especially if kept in oil or alcohol, and that the reason the change to silk gave better results was that it could be sterilized with ease by boiling or otherwise. It is most important to have the ligatures aseptic, for they lie deeply in the wound, and infection conveyed to the deeper parts is much more serious than any other kind. Too much silk must not be used for ligatures, but the hemorrhage from all the smaller vessels should be arrested by torsion. He prepares his sponges by simply washing them well with soap and water, rinsing them out, and then putting them in a 5 per cent. solution of acid carbolic. Before operation he passes the sponges through a roller press, and then places them in a clean enamel vessel. He does not use sponges to disinfect, but is satisfied if they do not infect. The smooth polished instruments are cleansed with soap and water, and put in a solution of carbolic acid; the more complicated instruments are boiled for three hours in simple water. To disinfect the hands, he uses brush, soap and water, then washes them in alcohol, and then in a sublimate solution (1 per cent.) He prefers wood-wool or moss as dressing, and does not rely much on the prepared gauze. Although, in many cases,

he does not use drains, when he does use them he introduces them by a separate opening a short distance from the operation wound; the wound he always closes with a continuous suture, one row deep and one superficial.

In conclusion, he gives directions as to the preparation of the operating room and the vessels and solutions used, also the ligatures, sponges, instruments, etc.

TREATMENT OF TUBERCULAR AND SUPPURATIVE PERITONITIS BY INCISION.

In tubercular peritonitis, this method of treatment has been gradually developed from observations of the improvement in such cases following exploratory incision. The operation is looked upon by most surgeons as merely palliative. One of Wells' patients lived ten years after. In all the cases hitherto reported there has been no recurrence of the transudation. Free incision and drainage gives much better results than mere punctures. Up to the present seventeen cases have been reported, most of them made for explorative purposes.—(*Wiener Med. Woch.*, 1887, Nos. 13-16.)

Within the last few years two cases have been operated on in the Montreal General Hospital with good results. In both the abdomen was opened for explorative purposes.

Dr. Kuemmell (Hamburg) has operated on two cases of his own and has notes of twenty-eight other cases. Of these thirty cases only two died from the operation; three died of general tuberculosis twelve, eight, and five months after. In two, local trouble did not recur, though the pulmonary affection went on, and at the time of reporting there were twenty-five relative cures. The external signs of peritoneal tuberculosis are usually those of an encapsulated ascites simulating a cyst. In but few cases was this part of a general tuberculosis, and in none was the latter hastened by the operation, but always improved. At the same meeting, Esmarch added three cases, Mikulicz two, and Wagner one,—all with one exception cures.—(Proceedings of sixteenth German Surgical Congress in *Centralbl. f. Chirurgie*, No. 25, 1887; quoted in *Annals of Surgery*, Dec., 1887.)

Operative Treatment of Suppurative Peritonitis.—Professor

Krönlein of Zurich (*Archiv f. Klin. Chir.*, 1886, Bd. 33, Hft. 2) relates three cases of putrid-purulent peritonitis with one success. The successful case was that of a laborer aged 18, who, after eating freely of cherries, was attacked with pain and vomiting, symptoms of peritonitis gradually developed, great tympanitis, finally feculent vomiting and severe prostration. Laparotomy on the nineteenth day; long incision and escape of fetid sanguino-serous fluid. Exudation found everywhere. No occlusion or perforation found. In spite of the apparent hopelessness of the case, the abdomen was carefully washed with a weak solution of bichloride and wound closed. No drainage. Patient did well, and three and a half months after was in perfect health.— (*Annals of Surgery*, June, 1887.)

At a meeting of the Clinical Society of London, held October 28th, 1887, Mr. Richard Barwell reported a case of suppurative peritonitis, where he opened the abdominal cavity, washed and sponged out the peritoneum, and patient made a good recovery. Patient was aged 42, and a hard drinker; admitted into Charing-Cross Hospital June 24th, 1887. Six days previously he fell and struck the left lower part of the abdomen, but seemed little hurt. Five days later felt severe pain and vomited. Soon his abdomen became distended and urine ceased to be secreted. Catheter brought away no urine; had previously passed bloody urine. Abdomen opened and a large quantity of gas escaped. No rupture of any viscus found, but a quantity of pus in lower part of peritoneum. Washed and sponged out with ten pints of distilled water. Abdomen sewn up without drain. Patient made a good recovery. Mr. Barwell said he objected to drains, as they could not drain the lower part of peritoneum through a wound in front of the abdomen. If distension occurred, the lower stitches should be removed.

Mr. Lawford Knaggs, at same meeting, related the case of a girl aged 16, with amenorrhœa of four months standing, who came under treatment for a left-sided abdominal swelling. Some fluid was aspirated, and the diagnosis of ovarian cyst made. The abdomen was opened, and the peritoneum was seen to be covered with myriads of pale-pink gelatinous-looking tubercles the size of hemp seeds. The ascitic fluid was removed and the peritoneal

cavity washed out with many pints of warm water. Improvement followed immediately. Fifteen months after there was no return of the ascites or abdominal disease. Her lungs were beginning to be affected and she had lost weight. The author spoke of another case of tubercular peritonitis operated on by him two and a half years ago; the patient is a strong, healthy woman now. Homans of Boston reported a case well three years after operation. Spencer Wells one alive and well twenty-two years after operation. Mr. Tait claimed a uniform success as far as operation is concerned in all cases and a complete cure of the disease in 80 per cent. of all cases of tubercular peritonitis.

The reason why these cases of tubercular peritonitis are cured by operation is not very plain. Some say it is due to mechanical irritation and washing out, but whatever is the cause, there is not the least doubt that operation in these cases does great good, and is very often curative. Incision and drainage is also the proper treatment to adopt in cases of simple suppurative peritonitis; the only difficulty is to know when to interfere, as many cases are at first obscure, and in some cases peritonitis can exist without any prominent symptoms. It is much safer in these case to use a glass drain. The fluid can be easily drawn away at intervals by means of a long-nozzled syringe. Some cases, however, appear to do well without drainage.

In the *Lancet* of Feb. 11th, 1888, referring to the above papers, Dr. Homans of Boston reports two more cases of *Laparotomy for Tubercular Peritonitis*. One was a girl of 21, operated on in June 1884, and when seen in November 1886, she weighed 130 lbs, and was in perfect health. There was still a sinus at the site of the old wound, which discharged a small quantity of pus daily. No drainage was used in this case, but afterwards the wound reopened and discharged the ascitic fluid which had accumulated. The second case was that of a girl aged 17, whose abdomen was opened for supposed ovarian tumor, but only ascitic fluid found and the whole abdominal cavity was studded with white nodules. These on examination by Prof. Fitz proved to be tubercles. A drainage-tube was introduced, but was removed on the second day. Eight months after the operation the patient was in good health and abdomen normal.

With regard to drainage in cases of tubercular peritonitis, Dr. Homans says he has never been able to establish an artificial drain in a case of ascites by the insertion of a drainage-tube; when nature means to cure the patient by drainage she reopens the wound.

At a meeting of the Philadelphia County Medical Society, Dr. E. T. Bruen reported a fatal case (*Medical News*, Nov. 26, 1887) of laparotomy for tubercular peritonitis. The patient was a man aged 34, with tuberculosis of the lungs and ascites. The fluid rapidly re-collected after tapping, so abdomen was opened and washed out. Patient died of acute peritonitis nine days after.

ABDOMINAL SECTION FOR PERFORATED TYPHOID ULCER.

Dr. T. G. Morton reports a case of the above in the *Medical News* of December 24th, 1887. The patient was a man aged 23, in good physical condition. The operation was performed twenty-four hours after the perforation. The abdomen was opened in the median line and a perforation discovered about three feet from the ileo-cæcal valve. It was about three-eighths of an inch in diameter, and occupied the lower end of a large ulcerated patch. The ulcer was closed by turning the whole area of the ulceration into the bowel by eight Lembert sutures. The ulcers in the bowel were seen outlined in the peritoneal surface by a deep dusky-red slightly swollen area. One looked as if it would soon perforate, so also was turned in by Lembert sutures. The abdomen then was thoroughly cleansed with water and the abdominal wound closed. The patient died collapsed six hours after the operation. Only two other such cases are on record, viz., the first performed by Kussmaul of Strassburg in October 1885. In this case the ulcer was excised; patient died eleven hours after. The second case was under the care of Mr. Bartleet of Birmingham. In this case the point of perforation was not found, so the cavity of the abdomen was washed out and a drain inserted; patient died two days after.

OPERATIVE TREATMENT OF ELEPHANTIASIS.

Dr. Helferich, after discussing the various treatments of elephantiasis (*Deutsche Med. Woch.*, 12th January, 1888) advo-

cates treatment by linear excision. In these cases the skin has lost its elasticity and compression is of little use. Dr. Helferich reports a case in which operative treatment was employed with good results. The patient was a girl 27 years old, who had since 10 years of age suffered at least once a year from erysipelas of the leg, which afterwards spread over the body, and after each attack the leg was larger than before. All methods of treatment proved useless. The skin of the face, arms and hands was also much thickened. On the 27th of November, 1885, he excised a long strip of skin reaching from knee to ankle and thence to the root of the toes of right leg, and on the 22nd of January, 1886, performed the same operation on left leg. The edges were brought together and united perfectly, afterwards the muscles were exercised by means of electricity and kneading, and patient walked about with comfort. The illustration accompanying the paper shows the marked improvement effected by the operation.

STATISTICS OF TRACHEOTOMY.

At a recent meeting of the Italian Surgical Society in Genoa Dr. Cabelli presented some statistics of tracheotomy which he had collected. In the first series of 132 cases there were 50 deaths and 82 recoveries. In the second series of 18 cases, 5 deaths and 13 recoveries. In the first series the recoveries rendered 62.2 per cent., and in the second 72.3 per cent.

INTUBATION OF THE LARYNX FOR CROUP AND DIPHTHERIA.

This method of treatment introduced by Dr. O'Dwyer of New York a short time ago has become very popular, so much so that in many places it has altogether superseded tracheotomy. The objections to intubation are not a few. First, the difficulty of introducing the tubes; second, the difficulty of feeding in many cases; and third, the danger of food passing through the tube into the trachea. Again, in some cases where the membrane is becoming loose, it may be pushed in front of the tube and so block up the passage. The operation is more suitable in those cases where the membrane is confined to the larynx itself. The operation is one that will be much more popular with the laity

than tracheotomy, because no cutting is required, and very few parents would object to the apparently much less formidable procedure of passing a tube through the obstructed passage. Considerable manipulative skill is required not only to introduce the tube, which is quite short, and is dropped into the rima glottidis and there hangs free, being prevented from passing through by a flange on the upper end. The instruments required are expensive, and consist of (1) mouth gag, (2) introducer, (3) five larynx tubes of various sizes, (4) extractor. The results so far have not been better than those obtained by tracheotomy since the introduction of antiseptics. Of course statistics in such operations are of little value, for everything depends on the character of the cases and the time of operation.

In the *New York Medical Record* for Oct. 29th, 1887, Dr. O'Dwyer records fifty cases of croup in private practice treated by intubation. He states he has never resorted to intubation until the symptoms of laryngeal obstruction were so urgent as to plainly indicate impending suffocation unless the child were relieved by operation. In his series of 50 cases he had 38 deaths; 18 due to extension of the membrane, 5 to exhaustion, 5 to nephritic complication, 4 to pneumonia, 3 to sepsis, 1 to oedema of the lungs, and 2 unknown, as they were not seen after operation. The 38 cases that died lived on an average two days and seven hours after intubation. In the 12 cases that recovered, the tube was retained on an average of five days and seven hours. After describing his method of practising intubation, he goes on to speak of the dangers of the operation, which are as follows:

(1) Danger of apnoea from prolonged efforts at intubation.

(2) The anxiety to succeed quickly will tempt the operator to use force, thereby running the risk of making a false passage.

(3) Injury to the larynx in removing the tube by passing the extractor down on the outside of the latter, opening it widely and removing it by force.

(4) The most serious of the unavoidable accidents liable to occur is pushing down the membrane before the tube in sufficient quantity to produce asphyxia. (This accident happened to the author only once in 132 cases.)

(5) Coughing out the tube before the stenosis has been permanently relieved.

(6) Blocking up the tube with masses of pseudo-membrane.

(7) The lumen of the tube sometimes becomes slowly, but seriously, encroached-upon by adhesion of the tenacious secretions in those cases of croup which are called dry, particularly if there be little cough.

SURGICAL TREATMENT OF BRONCHOCELE.

Professor Obalinsky of Krakow, in speaking of the various methods of treating bronchocele, strongly advocates that introduced by Prof. Wölfler. This method consists in ligaturing the four thyroid arteries. He reports two cases. One of a girl aged 22, in whom a substernal bronchocele caused severe respiratory difficulties. An incision was carried along the inner border of the sterno-mastoid muscle, which enabled him to tie both arteries. In two weeks the tumor had decreased three-quarters of an inch. The second case was that of a woman suffering from a large struma of right lobe. Both right thyroid arteries were tied. The wound healed by first intention, and when discharged the tumor was reduced by one-half. In one case Socin's method of enucleation was followed. A peasant aged 21; many tumors were shelled out, with very little hemorrhage, and recovery took place in a fortnight. The respiration was then normal.—(*Wiener Med. Presse*, Nos. 30-31, 1887.)

SUBDIAPHRAGMATIC ABSCESS.

Plinatus reports a case of the above (*St. Petersburg Med. Woch.*, No. 4, 1887). Patient a man aged 32 years, who had always been healthy. Had high remitting fever, and pain referred to the right hypochondrium in the neighborhood of the hepatic flexure of the colon. The liver region was very prominent. Six weeks after the beginning of the illness the liver dulness reached as high as the fifth rib in the mammary line, the seventh in the axillary line, and the eleventh rib near the vertebral column. The liver dulness extended nearly an inch below the edge of the ribs, so that the whole vertical extent of liver dulness was about $6\frac{1}{2}$ inches. The symptoms were obscure

as to whether there was an exudation in the pleura, but there were no distinct evidences of pleurisy. There was no pain on deep inspiration, the heart was in its normal position, the pulse was not frequent, and the line of dulness was not altered by position. At the end of twelve weeks the evening temperature was still high. Exploratory puncture was made in the fifth, sixth and seventh intercostal spaces in the axillary line. The first gave only serum, the second blood, and the third pus. The eighth rib was resected, but the pleural cavity was not opened, because the two layers of pleura had become fused; the diaphragm was divided and the abscess cavity reached,—it was about five inches deep. A large quantity of pus was evacuated, and the patient made a rapid and complete recovery.

(A somewhat similar case was reported by myself in the *Medical News*, Dec. 17th, 1887.)

ONE HUNDRED CASES OF OPERATION FOR STONE IN THE BLADDER WITHOUT A DEATH.

Surgeon-Major P. J. Freyer, M.D., reports the above in the *Brit. Med. Jour.* of Dec. 24th, 1887. Of these there were—61 litholapaxies in adult males, 16 ditto in male children, 22 lithotomies in male children, and 1 supra-pubic cystotomy in a male.

Reviews and Notices of Books.

Functional Nervous Diseases: their Causes and Treatment.—By GEORGE T. STEVENS, M.D., Ph.D., Member of the American Medical Association, of the American Ophthalmological Society, formerly Professor of Ophthalmology and Physiology in the Albany Medical College. New York: D. Appleton & Co.

This treatise, which received the highest honor awarded by the Royal Academy of Medicine of Belgium in 1883, is now presented to us in English. The work contains a great deal that is new and quite original, and will no doubt be welcomed by ophthalmic and other medical men. The author makes the long-recognized division of nervous affections into functional and organic. He takes up the predisposing causes of the former

group, treating of the neuropathic disposition, hereditary tendency, and reflex irritations, winding up his remarks on the last group of causes with the following proposition: "Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances, and more than other conditions constitute a neuropathic tendency."

This statement, as the author well remarks, so much at variance with the ordinary beliefs, must, of necessity, excite suspicion that the proposition has been based upon insufficient data, or that observations have been imperfectly made. However, any reasonable inquirer cannot fail, on reading the work, to see in Dr. Stevens a most careful observer, and that he has had ample material, extending over several years.

He then treats separately of cephalalgia, or headache; migraine, or sick-headache; neuralgia, spinal irritation and neurasthenia, chorea, epilepsy, mental disorders, etc., giving, in detail, the history, symptoms and treatment of cases under his care, which would be regarded by most medical men as hopeless, which made a good recovery after the existing ocular defects were corrected.

A supplement is added, devoted to refraction and accommodation, with a clear account of the author's own methods of examining for any existing defect in the ocular muscles, together with the treatment.

The whole subject is one of the greatest importance, and as treated by Dr. Stevens, deserves a good trial with careful study by all medical men, and especially by ophthalmologists, who have had new fields opened up for them. The book is nicely printed, and contains numerous portraits of cases previous to and following treatment, some of which show marvellous improvement.

Anatomy, Descriptive and Topographical, in 625 Illustrations.—By CARL HEITZMANN, M.D. English edition by LOUIS HEITZMANN, M.D. New York: J. H. Vail & Co. 1887.

This work is the English edition of the well known "*Heitz-*

mann's Anatomische Atlas," which has been popular in Vienna for the last sixteen years. It consists almost entirely of illustrations, with short explanatory text to each plate. The plates are clear, and show well the various structures, but would be improved by a little color. It is anatomically not so good a work as Quain or Gray, and the illustrations, though excellent, are no better, if as good, as those found in the last edition of Gray's Anatomy. As an atlas it is in a very convenient form, and would prove of use to the practitioner who has grown rusty in his anatomy, but as a student's text-book we cannot honestly recommend it. In fact there are so many excellent works on anatomy of this kind already in existence that another is not wanted. The modern anatomical text-books are altogether too bulky, and are getting beyond the grasp of the student. We think there is room for such a work as "*Gegenbauer's Anatomie des Menschen*," where the text is not too extensive, and the illustrations are merely for the purpose of making it plain. We have often wondered why this admirable work has not been translated into English.

As a work of reference, Heitzmann's Anatomy will prove useful and take the place of some of the larger atlases, but as a text-book it will not be popular. Some of the illustrations taken from preparations of the blood-vessels by Hyrtl are particularly good.

Nasal Polypus, with Neuralgia, Hay Fever and Asthma, in relation to Ethmoiditis. With illustrations.—By EDWARD WOAKES, M.D., Lond., Senior Aural Surgeon at the London Hospital, Surgeon to the London Throat Hospital. London: H. K. Lewis, 136 Gower St.

In this little volume the author advances his theory of the causation of nasal polypi under the heading of Necrosing Ethmoiditis. He starts with the fact that the muco-periosteum of the nasal cavities dips into the spongy structure of the bone and lines the cells, thus introducing a new element not found in other bony structures, namely, the mucous membrane element. It is to this special condition that the development of nasal polypi is due. Chronic inflammation of the mucous membrane causes

it to proliferate in one direction as myxomatous tissue, and in the other direction acts by giving rise to necrosis of the subjacent bone. This latter (necrosis) element causes the chronicity and obstinacy of the mucous membrane inflammation, which would otherwise, if uncomplicated, tend easily toward resolution and recovery. Proceeding on this basis the author educes many facts in support of his theory, describes the symptoms, direct and reflex, among others bringing up the much vexed question of hay fever, and finally winds up with the treatment as modified and altered to suit the condition. It is a good work, well worth a thoughtful perusal by all medical men.

Medical Electricity: A Practical Treatise on the Applications of Electricity to Medicine and Surgery.—By ROBERTS BARTHLOW, M.D., LL.D., Professor of Materia Medica, General Therapeutics and Hygiene in the Jefferson Medical College of Philadelphia, &c. Third edition. Enlarged and improved. With 110 illustrations. Philadelphia: Lea Brothers & Co. 1887.

Dr. Bartholow has brought his third edition well up to the most recent advances in electro-therapeutics. On the whole, the work can be said to be fairly representative of our present knowledge of the subject as far, at least, as its use in medicine is concerned. From a physician we could not look for a description of the surgical and gynæcological use of electricity. We are pleased to see that the author devotes considerable space to an account of electro-physiology. Without a thorough grounding in this subject, the practitioner's attempt at electrical treatment must in many cases be unsatisfactory. The galvanic treatment of uterine tumors (Apostolian) is now becoming so common, and the doses employed are so enormous, that there is imminent danger that in the hands of the unskilled serious results may follow. It is only by an intelligent comprehension of the laws of electro-physiology and physics that this powerful means for good can be used with safety. We have much pleasure in recommending the work under consideration as a safe and reliable guide in all those subjects that it deals with. It is the most recent work on electricity in medicine.

Sprains: their Consequences and Treatment.—By C. W. MANSELL MOULLEN, M.A., M.D., Oxon, F.R.C.S., Eng., Assistant Surgeon and Senior Demonstrator of Anatomy at the London Hospital, &c. London: H. K. Lewis, 136 Gower Street, W.C. 1887.

The author has done a service to the profession in wresting this somewhat common-place subject from the hands of old women and quacks and giving it a position among surgical injuries which its importance demands. There is too little space devoted to the subject of sprains in the ordinary text-books on surgery, and the consequence is that much ignorance, leading often to disastrous consequences, is displayed in the management of this class of injuries. We are pleased to find that Mr. Moullen lays great stress on *rest* as a therapeutic agent in the treatment of sprains, while at the same time he warns surgeons against its too long continuance, lest it be followed by troublesome stiffness of the joint. Where there is much effusion, the author prefers cold to heat as an application. He is not in favor of the immediate application of plaster-of-paris. For the pain and stiffness which so often follow sprains, massage and electricity are strongly advocated. We can especially recommend the book to the general practitioner as a safe guide in the treatment of sprains.

Transactions of the American Ophthalmological Society. Twenty-third Annual Meeting, New London, Conn.

We are just in receipt of the above transactions. Nothing very new, with a few exceptions, appears to have been reported. Dr. Buller's paper on a peculiar form of Trachoma associated with Icthyosis we have already noticed in this JOURNAL. Dr. Lippincott of Pittsburg reported a couple of cases of circumscribed hyperæmia over the internal rectus tendon in cases of muscular insufficiency. Dr. Theobald of Baltimore communicated an interesting paper on the Pathogenesis of Pterygium, and Dr. Lucien Howe of Buffalo a valuable note on the increase of blindness in the United States. We notice, also, the obituary of Dr. Ezra Dyer of Newport, R.I., one of the founders and a valuable member of the Society. In the way of instruments, Dr. Risley of Philadelphia exhibited an ophthalmoscope with an attachment for using cylinder lenses.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 9th, 1887.

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

PATHOLOGICAL SPECIMENS.

Development of Bone from Periosteum.—DR. BELL presented a section of the shaft of the femur illustrating the reproduction of bone from the periosteum. The specimen was secured from a patient whose thigh had been amputated ten days after receiving a compound comminuted fracture of the lower end of the femur and the head of the tibia, opening the knee-joint. Extensive sloughing had occurred, and at the time of the operation the patient was *sapraemic* from the absorption of putrid material from the sloughing tissues. Twenty-five days later it was found to be necessary to remove two and a half inches of the end of the bone owing to sloughing of the flaps. At the primary amputation the periosteum had been stripped from the bone to the extent of nearly an inch above the point at which it was removed. The bone removed at the secondary operation showed an undoubted development of bone in the periosteum thus detached.

DR. SHEPHERD said that this case was most interesting in connection with the views recently given by Dr. MacEwen of Glasgow in the October and November numbers of the *Annals of Surgery*. That authority held that periosteum does not initiate the reproduction of bone. In Dr. Bell's case the periosteum had certainly developed bone. He had no doubt of the correctness of Dr. MacEwen's views when he states that the periosteum is not the chief factor in the reproduction of bone, this function being performed by the soft tissues in the bone itself.

DR. MILLS thought that the Society was much indebted to Dr. Bell for having brought to its notice a specimen that might readily have been overlooked, and which illustrates one of the great laws of reproduction of lost tissue in the adult, in a structure but imperfectly understood as yet. There were other methods of ascertaining the laws of the organism than by laboratory experiments. Disease was one of nature's own experiments; and

medical practitioners might supplement the work of the physiological and pathological laboratories by the results of their clinical observations. The views most likely to be correct and lasting were that resultant of the comparison of facts derived from many different fields of observation. It was, moreover, to be remembered that however carefully conducted our laboratory experiments, there was always some disturbance of nature's processes, a principle often forgotten by over-confident investigators.

Purulent Meningitis.—DR. JOHNSTON reported a case which had been under the care of Dr. Molson, and in which he had performed an autopsy. Patient was a healthy woman, who, whilst in the sixth month of pregnancy, fell and struck her head. She developed soon after brain symptoms, deviation of the eyes, flexion of the neck to one side, and active delirium. She was admitted to the General Hospital, miscarried, and some days after died. At the autopsy, the ovarian veins were distended but patent, the renal veins free. There was severe parenchymatous nephritis with slight interstitial nephritis. Spleen and liver enlarged and soft. Uterus enlarged, cavity dilated, placental site free from inflammation. On the right side there was purulent meningitis of the inner surface of the pia mater extending to the base in the middle and anterior fossæ of the skull. There was thrombosis of the right lateral sinus and inferior petrosal sinus. No fracture of the base of the skull was found, but there was purulent otitis media of the right side with pus in the mastoid cells. The tympanic cavity was covered with granulations. In this case there was no history of ear trouble. Dr. Johnston had no doubt that the otitis was the cause of the meningitis, and that the fall a short time previously had very little to do with the fatal result of the case.

Rupture of the Heart.—DR. H. L. REDDY exhibited a heart showing rupture of the left ventricle, and related the following history:—S., aged 68, day watchman by occupation, enjoyed good health for the thirty years preceding his death. Good family and personal history. Was a tall, well-built man, but not obese. On Monday last he left his house at 5 A.M. to go to work. When going down the steps of his house he was seized with a severe pain in his chest; he managed to walk about a

quarter of a mile, when he was forced to return and go to bed. In my absence Dr. Spendlove kindly saw him for me, and has given me the following note: "Patient complained of severe pain below the lower third of the sternum and extending two inches to the left of the sternum and three or four to the right; pain down both arms to the fingers, and a sensation of tingling in the finger-tips, general malaise, and a feeling as if a heavy weight was on the chest; slight dyspnoea; no cough; lungs normal; pulse slow and full, but intermitting once in four beats; heart-sounds slightly indistinct, no murmurs to be heard; vomited once after taking a cup of tea. Dr. S. gave him a small dose of nitro-glycerine, which apparently had the effect of removing the intermittence." I saw the patient about 12.30 P.M.; he complained of severe pain in the epigastrium, and was greatly troubled with eructation; pulse was then normal, and there was no symptom pointing to the heart as the cause of the trouble. I ordered him $\frac{1}{4}$ gr. of morphia, which relieved him greatly, and in four hours another $\frac{1}{4}$ gr., which relieved him entirely. The patient, after the second dose of morphia, seemed quite well, and enjoyed his broth diet. On the afternoon of the 8th, or four days after the first attack, whilst reading the newspaper, he threw back his head and died instantly.

At the autopsy Dr. Johnston found the following conditions: Pericardium moderately distended by blood; on opening, blood and clot to amount of 10 oz. found within the sac, the clot forming a complete mould about the heart. A small laceration, half an inch long, situated in anterior wall of left ventricle, one inch to left of septum, surrounded by an area of ecchymosis. On opening ventricles, left nearly empty. Endocardium appears normal, but at spot of rupture, on separating trabeculæ, an area of softening can be seen, and bristle readily passed through the laceration. On transverse incision above laceration, a thrombosed vessel seen surrounded by soft, yellow area of necrotic muscle. Subpericardial fat in excess, but heart muscle not fatty. On microscopic examination, no extreme atheroma of coronary or systemic arteries.

DR. MACDONNELL thought that the thrombosis of the vessels

in the wall of the ventricle caused the symptoms which preceded death, but that the rupture itself occurred later.

Mucous Polypi.—DR. JOHNSTON exhibited some microscopic specimens of mucous polypi from the nose. In eight or nine cases the condition was seen in its early stage to be strictly an adenoma of the nasal mucous glands. In later stages in the epithelial cells cause a disappearance more or less complete of the cell outlines, leaving only areolar tissue infiltrated with mucous fluid. This secondary change is probably the reason why these growths are commonly but wrongly called myxomata of the nose and confused with true myxomata, which are tumors of quite a different nature, originating in connective tissue.

DR. J. J. GARDNER exhibited a horizontal section of an absolutely normal human eye through the macula lutea. Specimen was hardened in Müller's fluid, cut under alcohol imbedded in celluloidin and stained, first with hæmatoxylin and after with eosin. Under the microscope the yellow spot shows well the thinning of all the layers of the retina, with entire absence of the rods, leaving the cones very distinctly seen.

Sub-diaphragmatic Abscess.—DR. SHEPHERD reported a case which had come under his observation some months ago :

John R., aged 60, carter, was admitted into the Montreal General Hospital, under Dr. Wilkins, on the 14th of April, 1887, complaining of a painful swelling in his right side. More than a year ago he had, after exposure, become thoroughly chilled, and had suffered from very acute pain in the region of the stomach ; he was able to be about again in a day or two, but never felt quite well. The severe pain returned in a couple of weeks in the right hypochondriac region, and was increased by inspiration and movement of the body. At this time he became jaundiced. He remained in bed for a week ; after this the pain left him, and he got up and went about, but was unable to do any work. In the middle of April, 1886, he had another severe attack of pain in the right hypochondrium, and this time he remained in bed till July, 1886. He now first noticed a swelling in his right side, immediately below the margin of the costal cartilages. Since July, 1886, although he was never confined to bed, he always suffered from pain, and the swelling in his right

side gradually increased. At the beginning of April, 1887, the swelling became more painful and rapidly increased in size; he entered the General Hospital. During the whole period of his illness he never had any rigors nor any marked shortness of breath.

When examined on entrance into hospital, April 14th, 1887, the following note was made by Dr. Wilkins: "Well developed man, not emaciated or anæmic; skin cool and moist; no hectic flush; no jaundice; temperature 98.5°, respirations and pulse normal; appetite good, sleeps well, and always lies on his right side. In the right hypochondriac region is a large, smooth, globular, fluctuating swelling extending below the costal margin to within half an inch of the umbilicus, and laterally to near the median line; lower border of the swelling is convex and yields to pressure; right side of chest from third rib downwards is expanded, the intercostal spaces widened and bulging, and a dull note on percussion in front and in the axillary from the third rib downwards and from the middle of scapula behind. Breathing sounds are completely absent over this area. In upper part of right lung breathing is feeble and somewhat tubular in character. Left lung and heart normal. Urine normal. It is impossible to make out the liver dulness or to feel the lower border of that organ."

On the 18th of April Dr. Wilkins aspirated the fluctuating swelling in its most convex portion below the ribs, and drew off 25 ounces of creamy, sweet-swelling pus. This was examined microscopically for hooklets of echinococci, but without result. Nothing but blood, pus and neurotic tissue was found. After the aspiration, patient felt much more comfortable; could sleep on his right side, and had no pain or nausea. He was transferred to the surgical wards, and on April 23rd Dr. Shepherd, under ether, made a vertical incision some four inches long in a line with the nipple and commencing immediately below the costal margin on the right side; the parts were carefully incised and it was found that the wall of the abscess cavity was adherent to the abdominal parietes, and consisted of a thick mass of inflammatory tissue. When the abscess cavity was opened there was a gush of fluid, and afterwards each inspiration caused the

pus to flow more freely ; to facilitate the exit of pus a large rubber tube was introduced, which acted as a siphon ; in this way some 80 ounces of pus were drawn off. The patient now showed signs of collapse, breathing shallow, pulse extremely feeble, so the evacuation of pus was discontinued. On exploring the abscess cavity with the finger the diaphragm could be felt above, reaching as high as the third rib, but owing to the size of the cavity its lateral and posterior limits could not be made out ; its lower limit consisted of a dense mass of inflammatory tissue, through which the liver could not be felt ; a probe introduced could be felt posteriorly between the fourth and fifth ribs. The cavity apparently now contained as much pus as had been already evacuated, but owing to the condition of the patient it was decided it would be more prudent to allow it to drain away gradually through a rubber tube ; so the wound was sutured, a large drainage-tube left in, and a dressing of sublimated jute and washed gauze applied. Patient, on getting to bed, under the influence of heat and stimulants, soon rallied. During the next three days there was a large discharge of pus, and the dressings had to be changed daily. Temperature never rose above 99° , and from the day of the operation patient improved, the abscess cavity rapidly diminishing in size. By the 1st of June the discharge of pus had almost ceased, the abdominal organs had resumed their normal position, and liver dulness was normal, but breath sounds over right lung still feeble. Patient rapidly gained flesh, and when discharged from hospital in August there was a small sinus at the site of the wound which discharged a little serum. For the last three months patient has been at work, and looks, and says he feels, well. The sinus has not yet quite closed. The breath sounds could be heard over the whole right lung, but at the lower part, both in front and behind, still rather feeble.

Dr. Shepherd said that there was no doubt in his mind about this being a case of abscess which originated between the diaphragm and the liver. The remarkable point about the case was the absence of history of fever or rigors, the slow and comparatively painless growth, and absence of jaundice. These conditions are those which generally indicate echinococcus disease ; so at

first, until a microscopical examination gave a negative result, the case was diagnosed. The symptoms were not acute enough for liver abscess, but when no hooklets or other evidences of echinococcus were found it was thought probable that it was such a case. He had intended making a counter opening posteriorly to facilitate drainage, but the collapsed condition of the patient after the evacuation of so large an amount of pus warned him to complete the operation as soon as possible and to apply restoratives. The result was quite as satisfactory as it would have been had an opening been made posteriorly as intended, a dependent opening when abscesses above the diaphragm being much more important than when they are below it on account of pressure of the abdominal walls on the contents of the abdomen always tending to obliterate any cavity that may exist. In this case it was remarkable how soon such an enormous cavity disappeared.

DR. RODDICK thought that it was not improbable that the case originally had been one of empyema; that the pus had ulcerated through the diaphragm, and got between that structure and the liver.

DR. GEO. ROSS said that the explanation offered by the last speaker was an ingenious one, but not practicable. The anatomical structure of the parts did not give any likelihood to the supposition. The case had probably been originally one of subdiaphragmatic peritonitis which had become localized. We may have a pleurisy following a subdiaphragmatic inflammation without perforation of the diaphragm, but that such a small opening as would naturally result from an ulcerating empyema could completely drain the pleural cavity and collect below the diaphragm, was not probable. Any empyema would surely come forward more readily than downward.

DR. MACDONNELL related a case of peri-cæcal abscess, in which pus found its way up behind the peritoneum, between the liver and diaphragm, and burrowing through the latter, formed an abscess in the lung and was coughed up by the patient.

DR. WILKINS said that when he first saw the case the probability of its being an empyema occurred to him, but he, for various reasons, discarded this idea. From the early history,

jaundice, etc., he was inclined to regard the case as one of abscess of the liver; but against this was the total absence of a history of fevers, rigors, or sweating. He had now no doubt that the case was one of abscess-between the liver and diaphragm. One feature about the case was the apparently slight amount of pain which pressure on the tumor caused.

DR. SHEPHERD, in reply to Dr. Roddick, said that not one symptom in the early history pointed to an affection of the pleura; the pain was always below the costal cartilages of the right side, and there never was any cough or difficulty of breathing. At the time of the operation there was no pus in the pleural cavity. Fluid always finds its way in the direction where there is the least resistance, and this is certainly not in the direction of the diaphragm. In his experience the pus in empyema always pointed in the neighborhood of the nipple, and when it pointed elsewhere it did so by burrowing beneath the tissues external to the lung wall of the thorax, after perforating an intercostal space.

Four Cases of Lateral Lithotomy.—DR. FENWICK said: I desire, Mr. President, to lay before the Society four specimens of vesical calculi recently removed by lateral operation.

The first is a mulberry calculus removed in August of last year from a young fisherman from Newfoundland, aged 22 years, who had noticed the usual symptoms of stone for the past five or six years. For the past year he had been quite unfit for his usual avocations, and at length decided on seeking relief by coming to Montreal. The voyage from Newfoundland was unusually rough, and he stated that the pitching of the vessel was very distressing. The usual operation of lateral lithotomy was performed. The patient made a good recovery; the urine ceased to flow from the wound on the 14th day, and he returned home ten days later.

The second specimen was removed by lateral lithotomy from a Scotch farmer, aged 57, who had suffered from difficulty of micturition for the past year and a half. He had also noticed occasional spasm, persistent pain at the point of the penis, and frequency in passing urine; he could not retain his water longer than two hours at any time, and more frequently it would be passed every hour. He presented an anxious, care-worn appear-

ance, was a strong, robust man, and otherwise well-nourished and healthy-looking. His physician had suspected stricture, and had failed in an attempt to pass a No. 4 catheter into the bladder. This, he stated, had been followed by hemorrhage, the only time, indeed, in which he had lost blood. An ordinary sound was passed into the bladder and a stone at once struck. The prostate gland was not enlarged, and the urine was found to be normal and otherwise healthy. I may state that this man's brother, a year or two before, had been successfully operated on for stone by Dr. Roddick. Lateral lithotomy was performed on the 27th September last, and the two calculi shown were removed; their united weight is 243 grs. The patient progressed favorably. On the tenth day after the operation he complained of some bladder irritation, so that I determined to pass and leave in a soft rubber catheter. This was done with a view of hastening the closure of the wound in the perineum. The pressure of the catheter, however, could not be endured; it was removed on the second day after its introduction. The urine ceased coming by the wound on the fourteenth day. The wound made rapid progress towards improvement and closed on the seventeenth day after the operation, and he was allowed to return home on the twenty-sixth day from the date of operation.

The third specimen submitted was removed from an old gentleman, aged 69 years, by lateral lithotomy. It is almost pure lithic acid, and one of the largest specimens of the kind in my collection; its weight was 625 grs. The operation, which was performed on the 1st November last, was attended with some difficulty owing to the high position of the bladder, due apparently to an enlarged prostate gland. The bladder was, however, readily incised, but on attempting to enter with the finger I found that the point of my finger did not reach further than the commencement of the prostate. Fearing, if I used any force, that the bladder would be pushed beyond my reach, I requested my friend Dr. Roddick, who has a much longer index finger than I have, to complete the operation; this he did with some difficulty; no further cutting was necessary, as the opening in the prostate was large enough for the purpose. The bladder was then carefully washed out and a large-sized gum-elastic tube introduced through

the wound and tied in. This was removed by the patient himself the morning after the operation, and to this I attributed the subsequent disturbance which delayed the recovery. Erysipelas attacked the wound on the fifth day, the edges of the incision presented a sloughy aspect, and the erysipelatous blush extended over the buttocks and up the back as high as the shoulders; septic sore throat followed. The entire fauces and hard and soft palate were covered with diphtheritic membrane. The muriate tincture of iron with quinine was prescribed in full doses, and he was supported with beef-juice, milk and champagne. At the same time the throat was sponged over with a solution of salicylic acid 3i to 3i glycerine every two hours. This treatment was persevered in, and about the fifteenth day after the operation the symptoms began to improve. The urine was highly ammoniacal, and as he was constantly wet, which added to his distress, a soft rubber catheter was introduced into the bladder so as to drain through the natural passage. This was kept up for several days. He was, however, somewhat difficult to manage, as he would himself remove the instrument, but always permitted it to be reintroduced. This was followed by marked improvement. The erysipelas subsided about the twenty-second day and the wound became more healthy in appearance. The catheter was retained at intervals up to the 30th ult. The patient is now making a slow recovery; the urine ceased coming through the wound on the 5th of December, and the wound itself is all but closed.*

The fourth specimen is a mulberry calculus, removed from the bladder by the lateral operation on the 22nd of November, 1887. The patient is a healthy-looking lad of 18 years. I was informed by his mother that he had suffered from bladder irritation off and on since the age of five years. During the past twelve months he had observed that he experienced pain in riding over a rough road; there was continued irritation, frequency of micturition, and pain at the point of the penis. He had never passed blood. No examination for stone had ever been made until recently, when the gentleman whom he consulted had passed a sound and

* He progressed slowly, but steadily, and early in January returned to his home in the country. Since then I have heard of his steady amendment.

readily found the stone. He advised him to come to Montreal, and he was admitted into the Montreal General Hospital on the 16th November, 1887. The day following an examination was made while the patient was under ether. A short-beaked sound was passed and a stone struck; it appeared hard, had a clear ring, was evidently of good size, and was rough on the surface. Lithotomy was advised. As the examination had been attended with slight bleeding and increased bladder irritation, it was decided to defer the operation for a day or two. On Tuesday, 22nd of November, the operation of lateral lithotomy was performed. Some difficulty was experienced in delivering the stone. The patient progressed favorably. A sponge wrung out of a very weak solution of sulphuric acid was placed in his bed against the wound. On the seventh day from the date of operation he first experienced a desire to pass urine, but not over half an ounce was passed by the natural passage. This gradually increased in amount each day. On the thirteenth day the urine was passed in full stream and very little by the wound, and on the sixteenth day the urine ceased to come through the wound, and two days subsequently the wound closed. The patient was allowed up, and he returned home on the 24th December, 1887. The weight of the stone was 411 grs.

Cirrhosis of the Liver.—DR. R. L. MACDONNELL related a case of recovery in cirrhosis of the liver, where ascites had been present to a very great extent. The patient, a woman aged 35, married, but childless, was admitted to the Montreal General Hospital in August, 1885, with a large quantity of fluid in the abdomen. She had suffered during the past year from dyspnetic symptoms, with morning vomiting. There was a history of spirit drinking. Prior to admission, was tapped to the extent of 200 ounces. There was tenderness over the hepatic region. The liver was small, measuring three inches in the right mammary line. She remained in hospital for ten months, being tapped at first every two or three days, but subsequently at longer intervals, the amount withdrawn being at first about 180 to 200 ounces, but at the time of leaving hospital but 16 to 20 ounces could be obtained. She was tapped sixty times during that year, and taking 150 ounces as an average, altogether

8,500 to 9,000 ounces were removed. The woman has gained health and strength, and is now apparently well and attending to her household duties. The liver is of the same size, the belly empty, and dyspeptic symptoms have disappeared. The total amount of fluid removed in a year is large, considering the patient's weight (125 lbs.) and size. Much larger quantities have been taken, but the case is instructive, as illustrating the benefit to be derived from paracentesis in cirrhosis.

Dermoid Ovarian Cyst in a Pregnant Woman.—DR. WM. GARDNER alluded to a case he related to the Society with exhibition of the specimen last winter. The case in question was one of ovariectomy for dermoid cyst, with twisted pedicle and most alarming symptoms of peritonitis. At the operation there was found universal adhesion of the cyst; it was necessary to remove the second ovary for commencing disease. Washing out of the cavity was freely practised, and a drainage tube was used for five days. It lay against the posterior wall of the uterus for five days. The uterus was somewhat large and vascular, but pregnancy was not seriously thought of, yet in a few weeks the woman was found to be undoubtedly pregnant. He now had to report that a few weeks ago she had been confined at full term by her ordinary medical attendant, Dr. Molson, of a large, healthy, living child, and had made an easy and rapid recovery. This was the second ovariectomy Dr. Gardner had done during pregnancy. The first case was also confined at full term, both mother and child being alive and well. Considering the dangers of pregnancy with ovarian tumor when uninterfered with, such cases surely furnish a strong argument in favor of prompt performance of ovariectomy even when at the time of diagnosis there are no alarming symptoms. Both of Dr. Gardner's cases were, however, done for urgent symptoms.

The Dangers and Accidents of Local Treatment in Puerperal Cases.—DR. J. C. CAMERON then read a paper on this subject, which appeared in the JOURNAL for December, 1887.

DR. BLACKADER said he would like to ask the reader of the paper under what circumstances he now advised curetting, and whether he would perform this operation whenever there were any septic symptoms present. He thought that injections should

not be given too hot, for he had seen serious symptoms follow the employment of very hot injections; peritonitis even had resulted from the injection of plain hot water.

DR. WM. GARDNER related an instance illustrating the dangers of vaginal injections with improper syringes. The case was that of a lady whom he attended during the past summer for a violent attack of pelvic peritonitis. She had been for some months suffering from pelvic symptoms, and on one occasion proceeded to take a vaginal injection with the ordinary syringe; but having mislaid the vaginal pipe, she used the rectal pipe with a single aperture at the end. The vagina was lax and the perineum and cervix lacerated. She had no sooner begun than she was seized with violent pelvic and abdominal pain, with symptoms of collapse, speedily followed by vomiting, fever, and all the other symptoms. She was in bed for four or five weeks, and was for a time in great danger. There can scarcely be a doubt that the water was forced directly into the uterine cavity through the open cervix.

DR. RODDICK said he was cognizant of not a few cases where serious results had followed the use of bichloride of mercury injections. He thought Condy's Fluid a safer antiseptic. But best of all is hydronaphthal; it has germicidal qualities nearly equal to bichloride of mercury, but no odor or irritating qualities, and there is no danger of poisoning.

DR. MILLS thought that the untoward results sometimes following vaginal and uterine injections were to be explained through the impressions directly made on the nervous system as well as by absorption of the fluid used. This being the case, the good effects of the stimulant, given as Dr. Cameron recommended, prior to the injection were probably owing to its acting by lessening the susceptibility of the nerve centres to any sort of afferent impressions. He doubted whether the effect on the circulation was not rather favorable than otherwise to absorption. Dr. M. wished to know whether there was any exact evidence bearing out the belief that fluids were more readily absorbed from the vagina than the uterus after parturition. It is scarcely what would be expected.

DR. CAMERON, in reply, stated that the value of curetting, in

suitable cases, is unquestionable, viz., where portions of the placenta are retained; the brushing out of the uterus would not, in all cases, replace curetting. The danger of absorption is greater through the vagina than the uterus, as the former is always more or less abraded, and also because the injected fluid, owing to the greater tendency of the vagina to sacculate, remains longer in contact with the absorbing surface. He had written this paper as a protest against the indiscriminate and careless use of injections in the puerperal state.

Selections.

The Internal Administration of Bichloride of Mercury AS AN ADJUNCT TO THE LOCAL TREATMENT OF CIRCUMUTERINE INFLAMMATIONS.—Dr. H. N. Vineberg (*New York Medical Journal*, Jan. 28, 1888) draws the attention of the profession to the value of bichloride of mercury internally to promote and hasten the absorption of inflammatory products effused into the structures surrounding the uterus. He was induced to try the remedy from the striking results that he had accidentally observed in a case which had been under treatment at the out-door department of the New York Hospital. The patient had an extensive exudation of plastic inflammatory material surrounding the uterus which failed to undergo any absorption under the ordinary local treatment and the administration of various reputed tonics. She was growing cachectic, and rapidly passing into a state of invalidism. She was then sent to the surgical department, where a diagnosis of syphilis was made and the patient put upon a mixed treatment of iodide of potassium and bichloride of mercury. Improvement began to manifest itself shortly afterwards, and was very marked at the end of three months. The conclusion was forced upon the author that the results were due to the resolvent powers of the drugs and not to their antisyphilitic virtues. In view of this opinion, he decided to give one of the drugs—the bichloride—in every case of pelvic trouble due to circumuterine inflammation that came under his care. Accordingly, during the previous summer he administered the remedy to thirty odd dispensary and private

patients. The routine local treatment, consisting of the application of iodine to the vaginal vault, followed by glycerine tampons, was also carried out. The results obtained by this combined treatment were much more gratifying than when local treatment alone was relied upon. The author states that under the combined treatment cures were obtained in many of the cases, and improvement in all where the symptoms could be definitely traced to inflammation about the uterus. He found the bichloride useful also in some cases as a means of differential diagnosis of the various conditions that give rise to pelvic pain. If the pain continued after a three weeks' administration of the remedy, it was looked upon as being due to some other condition than pelvic inflammation. That cases are occasionally met with in which the most skilled gynæcologist is at a loss to determine whether the pelvic pain is due to a neurotic condition of the patient, to a neuralgia, or to a circumscribed, deeply-seated inflammation of the pelvic structures, every one who has had any experience in diseases of women will readily admit. It was in cases of this kind that the remedy proved valuable as an aid in forming an opinion of the pathological condition. The paper embodies the report of six cases, which seem to bear out the author's assertions. The remedy was given in doses of gr. 1-24 to gr. 1-16, with tincture of gentian, three times daily after meals. No untoward constitutional manifestations were observed even when the administration was continuously kept up for several weeks. On the contrary, the general condition of the patients seemed to improve, as did also the appetite and the digestive functions. The author sums up as follows: (1) The use of bichloride of mercury internally forms a valuable aid to the local treatment of circumuterine inflammations. (2) In the doses necessary for its resolvent effect the drug may be given for several weeks without any untoward constitutional manifestations. (3) In some cases where the inflammatory products are deeply situated within the pelvis, the internal use of the drug seems to be more efficacious than the most approved local treatment. (4) A short course of the drug often serves as an important means for the differential diagnosis of the various obscure conditions which give rise to pelvic pain.

CANADA

Medical and Surgical Journal.

MONTREAL, MARCH, 1888.

THE INFLUENCE OF FEVER ON THE CIRCULATION.

Landouzy and Siredey have recently published (*Rev. de Med.*) the results of an extensive study into the changes that occur in the heart and circulation during and after the occurrence of the infectious fevers. Their observations have been confined to the influence in this respect of typhoid fever, scarlet fever, and smallpox. They look upon this influence as being much more serious than is commonly believed. They especially refer to the injurious effects of typhoid fever, and consider that, next to acute rheumatism, it exercises the most deleterious influence on the circulation. It is not only a present, but a remote injurious action. In the cases of acute heart failure during the course of typhoid fever which they observed, they invariably found, after death, a myocarditis, with atrophy and fatty changes in the muscular fibres. The prominent symptoms during life indicating those changes, they found to be an irregularity in the action of the heart, with a rapid failure of its strength. They consider the examination of the pulse in typhoid fever to be of even more importance than that of the temperature. They look upon it with the same importance as does Jürgensen in a pneumonia. In addition to a myocarditis, they have also frequently found endarteritis of the aorta and smaller arteries. Some of the latter had their lumen completely blocked up. This endarteritis may extend and involve the aortic and even the mitral valves, and in this way lay the foundation of a change which in after years may lead to valvular incompetence. We therefore can have, according to these observers, all the cardiac

disasters from the ordinary infectious fevers that flow from the effects of acute rheumatism.

NOTES AND COMMENTS.

A few nights ago Dr. Hartshorne read an interesting paper at the College of Physicians, Philadelphia, in which he endeavored to show that the death rate from pneumonia had increased greatly within the past twenty-five years—doubled, in fact—and this he was inclined to attribute to the change in the methods of treatment.

It does appear from the last United States census reports that the death-rate from this disease throughout the country has increased, but taking hospital statistics, which are probably more reliable, and represent a greater uniformity in treatment, the increase is by no means great. Thus in the Montreal General Hospital, with an average mortality of 20.3 per cent in 1012 cases treated from 1853 to 1887, the percentages in the decades are as follows: 1853-63, 16.2 per cent.; 1863-73, 16.1 per cent.; 1873-83, 23.7 per cent.; and for the years 1883-87, 20.3 per cent. The increase of 7 per cent. in the death-rate in 1873-83 corresponded with the admission in that decade of more patients than in the previous twenty years, a fact to be borne in mind, as the greater the prevalence of pneumonia the larger the number of debilitated persons who will be attacked and who will succumb.

Neither the New Orleans Charité, with a total of 3969 cases since 1830, and a mortality of 38 per cent., nor the Pennsylvania Hospital since 1845, with 704 cases and a death rate of 29 per cent., show any such increase as could reasonably be attributed to a change in the methods of treatment. The figures of the Edinburgh Infirmary are most convincing to the contrary, for the death rate sank from 36 per cent. to 12 per cent. after the introduction of what we call the more rational methods.

For bleeding, mercury and antimony, with which our grandfathers attacked pneumonia, we have substituted aconite, ammonia, and alcohol. Then, as now, a considerable proportion of the cases were over-treated—the 50 or 60 per cent. which Skoda,

Deitl and Bennett have taught us recover without special medication. I daresay we loose cases which would have been saved by free venesection. I am always on the watch for such, but so far have not been very fortunate, for of seven cases in which from 12 to 24 ozs. of blood were abstracted five died, three in succession last winter. It is a mistake to suppose that an expectant plan of treatment is followed to any extent by the profession at the present day. If the mortality has increased, it surely is not for lack of vigorous measures. Aconite, veratrum viride and antimony are in general use, and are prescribed with great freedom. The census returns show a greater mortality of pneumonia in the country districts, a fact which some might connect with the persistence in these parts of more heroic measures of treatment.

A deepening and fatal coma after æther anæsthesia may be due to apoplexy or to uræmia. An illustration of the former occurred in Montreal eight or ten years ago in the practice of Dr. Fuller, in an operation for cataract on an old man. I do not think the case was ever reported in full, but if I remember aright, cerebral hemorrhage was present post-mortem. On the 26th January a man aged 53 was admitted to my wards in the Philadelphia Hospital, to whom, on the 25th, æther had been given by Dr. Eareckson to stitch a wound on the face due to a fall. The patient, a sober man, had not been well for some time, and was very tottery on the 25th when he fell and cut his nose. According to the friends, he took the æther very well, and the operation did not last long, but he never regained consciousness. When I saw him on the morning of the 27th the temperature was 97.5° ; the pulse 104; the limbs relaxed, but moved occasionally; pupils medium size, immobile; respirations noisy. The urine obtained from the bladder was highly albuminous and contained many finely granular and hyaline casts. In the evening the temperature was 98° , and the condition was unchanged. He was thoroughly purged and sweated without any benefit. He died on the morning of the 28th, never having roused or shown any sign of consciousness. An autopsy was not allowed, nor did the coroner order one!

There can be no doubt that in this case the administration of æther precipitated an attack of uræmia, and I mention the case to remind physicians of the dangers of giving anæsthetics in chronic Bright's disease. Dr. W. F. Norris, in the Transactions of the American Ophthalmological Society, 1881, called attention to the subject and gave references to several cases. I do not think that the simple presence of albumen and casts should absolutely preclude the administration of æther, but a knowledge of their existence should increase, if possible, the precautions taken, particularly when associated with the *arterial* and *cardiac* changes so common in chronic Bright's disease.

We speak of death as the King of Terrors, yet how rarely does the act of dying appear to be painful, how rarely do we witness *agony* in the last hours. Strict, indeed, is the fell sergeant in his arrest, but few feel the iron grip; the hard process of nature's law is for most of us mercifully effected, and death, like birth, is "but a sleep and a forgetting."

I have been much impressed with this recently in the case of a friend who had entered far into the Valley, and who now, in his convalescence, bitterly contrasts the pains and tortures of suppurating hypodermic punctures with the dream-like, delicious sensations of the profound collapse in which he nearly passed away. Shelly's description,

"Mild is the slow necessity of death:
 The tranquil spirit fails beneath its grasp;
 Without a groan, almost without a fear,
 Resigned in peace to the necessity;
 Calm as a voyager to some distant land,
 And full of wonder, full of hope as he,"

is truer in the majority of cases than Newman's marvellous picture in the *Dream of Gerontius* of the act of dissolution, which, more in accord with popular belief, is described as a "fierce and restless fright," "a strange innermost abandonment" and sense of ruin, worse than pain.

Dr. William Munk, the accomplished historian of the Royal College of Physicians of London, has recently written a little work on *Euthanasia: or medical treatment in aid of an easy*

death. With much of general and scientific interest, it contains also many valuable suggestions to practitioners and sound advice as to the medical management of the dying. The first chapter, "On Some of the Phenomena of Dying," is full of interesting testimony on the painlessness of death. He quotes William Hunter's words, almost his last ones, "If I had strength enough to hold a pen, I would write how easy and pleasant a thing it is to die." Dr. Munk urges the free, but judicious, administration of opium, not so much for the allaying of pain as for the relief of the feeling of exhaustion and sinking—of indescribable distress and anxiety—referred to the heart and stomach. Hufeland declared that opium "is not only capable of taking away the pangs of death, but it imparts even courage and energy for dying."

Some of my most pleasant recollections as a student are associated with Richard Zimmerman, whose death took place last week in Toronto. At Toronto School of Medicine, which we entered together, his zeal was always a stimulus, but his capabilities, as tested at the examinations, were far beyond my reach. In London, though at different hospitals, we saw much of each other. His brilliant career at St. Thomas', where he secured the prize of a house physicianship under Murchison and Bristowe, gave him exceptional facilities, and he returned to Canada in 1874 one of the most thoroughly trained men it has been my pleasure to know. Success came rapidly, and in the enjoyment of the esteem of his colleagues, the confidence of the public, and the love of his students, how bright seemed the outlook! But the shadow of an hereditary ailment fell and deepened—and the end has come. To me there remains the memory of a bright, unselfish, loving friend.

WILLIAM OSLER.

Medical Items.

—Dr. Straus has been nominated by the Paris Faculty as successor of Prof. Vulpian in the chair of Experimental and Comparative Pathology.

—Prof. His of Leipzig has been offered the first chair in Anatomy in the University of Vienna, rendered vacant by the death of Prof. Länger.

—The first number of the *Brooklyn Medical Journal* has made its appearance. It is edited by a committee of the Medical Society of the County of King's. We wish this new venture every success.

—Sir Morell Mackenzie, speaking of the Crown Prince's case, says: "At this moment medical science does not permit me to affirm that any other disease is present than chronic interstitial inflammation of the larynx combined with perichondritis."

DARWIN ON HOMŒOPATHY.—In a letter to J. D. Hooker, written from Down, March 28th, 1849, Darwin gives expression to his opinion on this great system of therapeutics:—

"You speak about Homœopathy, which is a subject which makes me more wrath, even than does clairvoyance. Clairvoyance so transcends belief, that one's ordinary faculties are put out of the question, but in homœopathy common sense and common observation come into play, and both these must go to the dogs, if the infinitesimal doses have any effect whatever. How true is a remark I saw the other day by Quetelet in respect to evidence of curative processes, viz., that no one knows in disease what is the result of nothing being done, as a standard with which to compare homœopathy and all other such things. It is a sad flaw. I cannot but think in my beloved Dr. Gully that he believes in everything. When Miss — was very ill, he had a clairvoyant girl to report on internal changes, a mesmerist to put her to sleep, an homœopathist Dr. —, and himself as hydropathist, and the girl recovered."—*Life and Letters of Charles Darwin*, Vol. I, p. 374.