of the cases of neuritis, though only observed during the puerperium, are in reality cases of neuritis of pregnancy, and thinks that the impaired gastro-intestinal functions during the gravid state are the cause of the condition by leading to an auto-intoxication through the formation in the gastro-intestinal tract of some substance, possibly acetone, which is absorbed and causes the neuritis. That it is a toxemic polyneuritis there can be little doubt, but as to the nature of the poison there is no evidence that acetone is the cause of the condition. In many of the cases of puerperal polyneuritis there was a distinct history of fever during the puerperium, as pointed out by George Elder in a valuable paper on "Peripheral Neuritis in Pregnancy," in the *Lancet* of July 25, 1896; so that there is much reason to believe that they were really cases of septicemic neuritis. To quote him:

"Some cases, however, have been described where the puerperium was said to be fever-free, although apparently in few of them was this point specially observed, as the cases only came under the notice of the observers some time after the onset of the disease. In such cases even should it be proved more satisfactorily than at present that the puerperium was fever-free, there is in the process of involution of the uterus, etc., and consequent presence in the blood of a quantity of products of disintegration, a possible cause of poisoning of the nervous system. Similarly, in pregnancy one has in the greater amount of relative changes going on, as a consequence of the growth of the embryo *in utero*, a larger quantity of effete products to be eliminated from the system, and it is probable that this is largely the cause of the neuritis when it is present; for the excretory organs may at times be unable to fully eliminate from the circulation all these products although they do not give any actual signs of being themselves diseased.

"In most of the cases recorded of peripheral neuritis in pregnancy there has been severe vomiting lasting for a considerable time, which has been accepted as the cause of the neuritis by most of the writers. . . .

"That it is closely related to the neuritis there can apparently be little doubt, and this relationship is more strongly brought out by the fact that in several cases of puerperal polyneuritis there had also been excessive vomiting during pregnancy."

The cases reported by Elder, two in number, show that vomiting is not absolutely necessary for the production of neuritis in pregnancy, as it was absent in both.

Recovery from the neuritis has been the result in most of the cases reported — in some tardy, in others rapid. A few remained unaffected by treatment for many months. Several cases terminated fatally.

In regard to treatment, Elder says: "Remembering the fact that the disease may prove fatal, one must be prepared to induce labor before the disease has advanced too far, for as soon as the uterus is emptied there is naturally a tendency to recovery. One would require, however, to be particularly careful in inducing labor to prevent the onset of the slighest degree of septic trouble, which would tend to aggravate the condition, for nearly all the cases of peripheral neuritis have followed on a fevered puerperium. Otherwise the treatment of the condition would resemble that in other forms of peripheral neuritis."

The bibliography is given by Eulenburg and completed to date by Elder in the journals cited.

Clinical Department.

A CASE OF SYMPHYSEOTOMY.[1]

BY JOHN B. SWIFT, M.D., BOSTON.

At eleven A. M. on September 10, 1896, I was asked to see Mrs. A., residing in Dorchester, to determine whether Cæsarean section should be done. The message said that she was in labor at that time.

I got to the patient about twelve, and learned from the attending physician that about one year previous she had been delivered of a child (her first) by craniotomy. The three physicians, who had seen her at that time, had told her that she could not have a living child in the natural way, and that, should she become pregnant again, Cæsarean section would be necessary. When it was known that she was pregnant a second time, the operation was explained to her, and she decided to have it done, but had put off making the necessary arrangements. The present labor had commenced some time during the day before, and he had been summoned at three o'clock this morning. He found the os fully dilated, with the membranes protruding. The head was presenting, but would not descend because of a projecting promontory. During his examination the membranes were accidentally ruptured.

I found the patient to be a slight, thin woman, twenty-six years old, married two years. She said she had always been well and strong, the only sickness she ever remembered being her last confinement; but later she told me that, when a child, she had hurt her back by a fall on the ice, but it had never given her any trouble.

On external examination the pelvis seemed to be well formed, and the measurements by the pelvimeter were: crests 10½ inches, spines 9½ inches, external conjugate 7½ inches. The abdomen was not especially prominent. The head was felt rather more to the right of the median line, the back towards the front, breech at the fundus on the left side. The fetal heart was heard to the left of and below the umbilicus, 130 beats a minute.

The finger introduced into the vagina easily reached the promontory, projecting further forward than normal. The os was fully dilated. The head was above the brim, with the occiput toward the left side. Between the pains the head was movable and extended; but during a contraction it could be felt to flex and become fixed in the grasp of the uterus. The distance from the most prominent point of the promontory to the under side of the symphysis measured just under three and one-fourth inches, and the true conjugate was estimated at about three inches. The pelvis otherwise was roomy. Sweeping the finger around the pelvis and comparing the impression of the pelvic circumference, thus formed, with the estimated size of the child's head, delivery by the forceps or turning did not seem possible.

The question then resolved itself into craniotomy, Cæsarean section, or symphyseotomy. The child being alive, craniotomy was rejected.

The woman having been in labor so long a time with the membranes ruptured; the uterus contracting so firmly; and the probability of the head easily coming through the pelvic brim by having the pelvic circumference increased, led me to believe that symphyseot-

[1] Read before the Obstetrical Society of Boston, October 20, 1896.

omy would be the most favorable operation for both mother and child, and I so expressed myself. Consent was readily given, and she was transferred to a private room in the Carney Hospital. There was no delay, as all preparations had been made at the hospital during the transfer of the patient from her home, instructions being given to the house-officer by telephone.

On arriving at the hospital she was etherized, and the customary antiseptic precautions taken. With the patient in the lithotomy position, a steel male sound was passed into the urethra, and given to an assistant with instructions to hold the urethra on one side. An incision was then made over the symphysis, beginning well up on the mons and extending down to the clitoris, and the tissues divided down to the joint which was easily found. The symphysis was divided from above down by a probe-pointed bistoury, and immediately separated five-eighths of an inch. There was very little bleeding. Putting my finger into the vagina and pressing the head down with a hand on the abdomen, it was seen that the head would enter the brim, but would not come through. The head was strongly flexed with its long diameter in the transverse diameter of the pelvis, occiput to the left. The forceps were applied, one blade over the occiput, the other over the front part of the head, and with moderate traction the head came into the pelvis, the pubic bones separating about one and one-half inches. The forceps were then removed, thinking that I could reapply them to the sides of the head and rotate it, but I was unable to adjust the left blade. They were, therefore, applied as before, and as the head came down it was rotated in the forceps by one hand and easily delivered. The perineum had been torn to the sphincter during the previous delivery and had been repaired after her convalescence. The scar gave way slightly on the right side. It was immediately united by one silkworm-gut suture. This was the only abrasion which I could find in the genital canal. The child, a female, did not breathe at first, but efforts at resuscitation soon established respiration. The measurements of the head were:

Bi-temporal diameter	3¼ in.
Bi-parietal diameter	3¾
Occipito-frontal diameter	5+
Sub-occipito bregmatic	3¾
Circumference	14¾

The placenta was easily expressed during a contraction about ten minutes after the child was born.

There was considerable difficulty in getting the pubic bones together again, but it was accomplished by the aid of two assistants pushing on the sides of the pelvis, the patient's legs being fully extended at the same time. The bones were held in place by a large silk suture passed through them, a wire suture having broken. The incision was closed by deep and superficial sutures of silkworm gut. A corrosive-gauze dressing was applied and a broad band of adhesive plaster passed around the hips. Over all an unbleached cotton obstetric binder was pinned as tightly as possible.

A self-retaining catheter having been passed into the bladder, she was put to bed in very good condition, with the legs tied together, and instruction given that she should be kept on the back with sand bags on either side to prevent motion.

This constrained position proved to be exceedingly annoying, and accounted, I think, for the rise of temperature which took place during the two days following the operation. During the second night it was found that the catheter had come out of the bladder. It was not replaced, as she was able to empty the bladder herself.

On the fifth day the dressings were changed, and, as the incision had healed, the sutures were removed. There was a rise of temperature the day following which could not be accounted for; but it was soon evident that an abscess was forming. This was opened through the original incision, and was caused, I think, by drawing in septic material when removing the sutures. Otherwise, the convalescence was uneventful. The milk-supply was abundant from the first, and the child was nursed as in any case.

She was kept in bed four weeks. On getting up she declared she could walk as well as ever, and it was impossible to detect any motion or separation at the symphysis.

Conclusions should perhaps not be drawn from one case, but the impression which I had formed from my reading, namely, that symphyseotomy is not the operation of election, was confirmed. I mean given a case of contracted pelvis where the question arises between induced labor, Cæsarean section and symphyseotomy, I think Cæsarean section should be done for the following reasons:

The child is at full term.

It can be extracted from the uterus as readily, or even more so than with symphyseotomy.

In induced labor the child is premature, which is an added risk to its living.

In symphyseotomy there is great danger of lacerating the tissues. There is the possibility of the symphysis not reuniting, and thus leaving the woman in a more or less crippled condition.

Greater care must be exercised in the after-treatment, as there is more danger of infecting the wound in symphyseotomy, owing to the difficulty, or almost impossibility of preserving asepsis.

As for the operation itself, to any one familiar with abdominal surgery, Cæsarean section would be the easier operation. To be sure, I found the division of the symphysis to be as easy as opening the abdomen and uterus, but the extraction of the child, and afterwards getting the parts together and placing the deep sutures was certainly harder and took more time than the same things take in Cæsarean section.

Again, symphyseotomy must not be done until the os is fully dilated, which may mean that the patient has been subjected to a great amount of suffering, and is in poor condition to stand the operation; whereas Cæsarean section is done early in labor, or even before labor has begun.

The place for symphyseotomy seems to be when the choice comes between it and craniotomy on the living child.

All statistics show that for Cæsarean section to be successful it must be done early. Therefore, when labor has been going on for some time, and it is evident that the child cannot be delivered by forceps or turning, symphyseotomy should be done before craniotomy, unless the passage through the pelvis is too small, for there is a limit to the separation of the bones, beyond which it is not safe to go. Where the conjugate is below two and one-half inches symphyseotomy should not be done.

In cases of impacted head from faulty presentation,

or absence of rotation, forceps having failed, symphyseotomy should be tried before craniotomy.

As to placing an upper limit, so to speak, that is, saying that with a certain amount of contraction a certain operation should be done, does not seem reasonable. It is a question of judgment, combined with skill in diagnosis and ability to operate. The relation between the size of the pelvis and the size of the head must be considered. With a large head and a very slight contraction, delivery might be prevented or call for operation in one case, while in another, with the same amount of contraction, but a smaller head, it would be easy.

The importance of pelvimetry cannot be too strongly urged. I believe that careful measurements should be made in the case of every primipara under our care, or in any case with a history of difficult labors. Also, in the later months of pregnancy, in all cases, examinations should be made to determine the size of the head in its relation to the pelvis.

A CASE OF GENERAL SEPTIC PERITONITIS FOLLOWING ABORTION.

TREATED BY PERITONEAL AND INTESTINAL DRAINAGE, RESULTING IN RECOVERY.

BY ALBERT H. TUTTLE, M.D., CAMBRIDGE, MASS.

SUNDAY, July 19th, I was called to see Mrs. S. P. C., of Somerville, by Dr. S. M. Bump, her attending physician.

She was twenty-three years of age, married five years, II-para, and had enjoyed good health to the time of the present sickness.

Dr. Bump stated that he was called to see the patient July 15th, that he found her suffering from the effects of abortion (probably criminal), with retained placenta and severe metrorrhagia; the pulse was weak and rapid, 120 beats to the minute. He applied a tampon.

On the 16th he removed the tampon, curetted the uterus, and packed it with iodoform gauze. The patient came out of ether well, the pulse dropped to 96 beats per minute, and vomiting occurred to some extent. On the 17th the patient vomited continually; the vomitus assumed a stercoraceous character; the pulse reached 130; there was no pain; the temperature taken by the axilla was normal. Glycerine and turpentine in water were administered per rectum, and sulphate of magnesium in conjunction with pills of aloes, strychnia and belladonna, by mouth; but without effecting a movement of the bowels. Tympanites set in and steadily increased. The case grew gradually worse, and he called counsel. As the bowels still remained obstinately closed, the patient was becoming very weak, and the case was assuming a most desperate character, they determined to try the effect of a dose of metallic mercury, and eight ounces were given on the 18th. The bowels still refused to act.

On the 19th I found the patient suffering intensely from thirst; the abdomen was swollen and tympanic, tender to the touch, and uniform in contour; the tongue red and dry; the mind blunted; the decubitus dorsal with the legs extended full length. There was great restlessness and continual low moaning. The pulse was feeble and hard to count; the skin covered with cold perspiration and clammy to the touch; the respiration quick and shallow; and altogether the appearance was that of a very sick woman.

Some time ago I read of a case in many respects similar to this one, where the gut was opened and drained, with recovery (I cannot recall the name of the writer); and a short time later Dr. Godfrey Ryder reported another successfully treated in the same manner. I determined to try the same method of treatment, and opened the abdomen on the left side. My intention was to perform a left lumbar colotomy, but finding the bowels much displaced, I inserted gauze drainage, after first removing numerous clots of fibrin, and proceeded to the right side. There I opened the abdomen over the caput coli, drew the great gut out and sewed it to the edge of the peritoneal wound, after which I made a very small opening in the bowels, which was followed by the escape of gas. Gauze dressings were applied and the patient put to bed. She was in a collapsed condition, and one-tenth of a grain of strychnia was given hypodermically.

The outlook was not very hopeful; however, she rallied from the operation, and within twenty-four hours passed flatus by the rectum. The abdomen became less distended, and the patient was less restless.

Forty-eight hours after the operation I again saw the case with Dr. Bump, and recommended a quinine enema. This was followed by a large fecal movement, unformed but of thick consistency.

At regular intervals strychnia, digitalis, strophanthus and belladonna were given, together with large quantities of alcoholic stimulants. The bowels were daily kept open by rectal enemata.

From both wounds there was a considerable discharge of fluids for several days. The fistula closed spontaneously, and by the end of the third week the patient made a good recovery.

On the 5th of August metallic mercury was passed by the rectum for the first time, eighteen days after its exhibition. The mercury came away in small quantities during the succeeding week.

The case was in my opinion one belonging to a class where fatal issue is almost inevitable, and the result must be of considerable value in testimony of the virtue of intestinal drainage in cases of paralysis of the gut following septic infection.

Medical Progress.

REPORT ON SURGICAL PROGRESS.

BY H. L. BURRELL, M.D. AND H. W. CUSHING, M.D.

(Concluded from No. 24, p. 597.)

THE OBJECTS AND LIMITS OF OPERATIONS FOR CANCER.

CHEYNE,[28] in an article on the above subject, gives the statistics of a large number of operations, and states that the only larger statistics which, so far as he knows he has omitted, are 12 cases of Kronlein, with three deaths. As far as the author knows, they have not been published, with the exception of two, one of which was well at the end of seven years. To include this one and not the others would vitiate the statistics. The author states that he has also

[28] Lancet, 1896, vol. i, p. 677.