CESAREAN SECTION DONE UNDER SPINAL ANESTHESIA FOR ECLAMPSIA

REPORT OF THREE CASES *

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CASE 1.—Mrs. E. W. L., aged 32, was admitted to the Samaritan Hospital, Troy, N. Y., Nov. 28, 1911, having been referred to my service by Dr. Thurman Hull.

About five years previously, she had two miscarriages and with both there were convulsive attacks, although she is said to have had no albumin in the urine at that time. The day before admission to the hospital, when between seven and eight months pregnant, she was taken suddenly with convulsive attacks, and thereafter had a convulsion about every half hour until her admission, at which time the bowels were moving involuntarily and there was a small amount of blood coming from the vagina. The pulse at 70 was of a fairly good quality. The temperature was 99.3 F. The urine was said to contain a large quantity of albumin. The skin was pale and very dry. The pupils were mid-wide and did not respond to light. The tongue was clean. The lungs were normal. The apex of the heart was in normal position, but the sounds were weak, indistinct and irregular. The liver dulness was normal. The abdomen was full, rounded and universally dull. The fundus of the uterus was 2 inches below the ensiform cartilage and a pregnancy was easily diagnosticated. The small parts were to the right, dorsum to the left, head in the pelvis. There were neither fetal heart sounds nor fetal movements.

The os was dilated so as to take the tips of two fingers, was hard and did not respond to manual dilatation. The patient was semiconscious and there was a paralysis of the right side of the face and body.

At 2 p. m. she was given 10 minims of Norwood's tincture of veratrum viride, and poultices of digitalis leaves were applied to the lumbar spine. At 3:20 p. m. she was given 10 grains of theobromin sodium salicylate. The specific gravity of the urine was 1.024, reaction acid, albumin in large quantity, granular and hyaline casts, and red blood cells.

After a number of convulsive attacks, about midnight the patient went into a heavy stupor which was broken by periods of active delirium. There were no convulsions and she voided involuntarily.

At 5 p. m. November 29, under spinal anesthesia, with the use of stovain according to the formula of Dr. Babcock of Philadelphia, through a median section, a hysterotomy, the extraction of a dead female child and a complete supravaginal hysterectomy were done. The uterus contained several fibroids of various sizes.

The next day the patient was restless, vomited several times and voided urine involuntarily. The right side of the body and face were still paralyzed. The convalescence was smooth. Surgically speaking, the patient made a complete and quick recovery. Immediately after the operation the urine began to clear so that by December 17 it was free of albumin. The paralysis in the right leg had improved when the patient left the hospital Jan. 20, 1912. On July 4, 1912, it was reported that she had regained very good use of her right leg, and that the arm motions seemed to be improving rapidly.

Because of the low pulse-rate and the presence of a right-sided hemiplegia, although there was an undoubted albuminuria with casts and red blood cells, the diagnosis of uremic eclampsia may be open to a reasonable doubt, but all who saw this case with me felt that the doing of cesarean section under spinal anesthesia was the proper procedure.

CASE 2.—Mrs. M. C., aged 27, patient of Dr. J. H. Flynn, was nearing the end of her first pregnancy when on Dec. 30, 1911, at about 7 p. m., suddenly and without any premonition, she was seized with eclamptic convulsions, which continued during that night without the appearance of labor pains. On the morning of December 31, Dr. Flynn introduced a catheter into the uterus for the purpose of inducing labor. As the day wore on and labor did not supervene, and as the patient was semiconscious and pulmonary edema had developed, Dr. Flynn had her removed to the Leonard Hospital, Troy, and asked me to see the patient with him.

On admission her temperature was 102 F. and pulse 136. She was semiconscious, cyanotic and was having frequent convulsions. There was marked pulmonary edema. This condition continued up to the time of my operation on the evening of December 31.

Under spinal anesthesia, the same as in the first case, I performed the cesarean section, extracting a child which lived four hours. As the catheter was found in the uterine cavity, between the membranes and the uterine wall, it was thought that sepsis might occur and a complete hysterectomy was done.

The patient made a good surgical recovery, but convalescence was complicated by a mammary abscess where repeated hypodermoclysis had been given. The patient was finally discharged from the hospital in good condition Jan. 27, 1912. The albumin, however, never entirely cleared up.

CASE 3.—Mrs. C. McC., when between eight and nine months pregnant, was taken, Jan. 27, 1912, at about 10:30 p. m. with uremic convulsions. All day she had had headache and was restless, but there had been no signs of labor. After the first eclamptic seizure, convulsions followed each other frequently. Dr. Winship, of Eagle Mills, was called to attend the patient and sent her in to my service in the Samaritan Hospital Jan. 28, 1912. On admission the patient was comatose and was having frequent convulsions.

The family history was good. The patient began to menstruate at 11 years of age and had always been regular; she was married at 19 and had had two children, both of whom were living; previous to the birth of the second child she had considerable "bloating," and one year previously she had had scarlet fever and was very ill for two weeks. She was a well-nourished and well-developed woman. The skin was pale and dry; the face was expressionless and edematous, and the pupils were small. The tongue was bleeding from teeth wounds and much swollen. The apex of the heart was displaced outward, but there were no murmurs. The liver dulness was normal and the spleen was not palpable. The abdomen showed a normal pregnancy of about eight and one-half months with the head in the left occipito-anterior position. The kidneys were not palpable, and the genital organs were edematous. The urine was said to be scanty and highly albuminous. A diagnosis of eclampsia was made.

Under spinal anesthesia, a classical cesarean section was performed, with the same technic as in the previous cases. A living female child was delivered. The operation was slow, taking one hour and five minutes, most of this time being used in carefully closing the wound in the uterus.

For several days the patient had some rise in temperature and at one time it went up to 102 F., with a pulse of 110, but on the seventeenth day it reached normal and so remained. She was discharged from the hospital, well, Feb. 22, 1912.

On January 28, the day of admission this patient's urine was acid, specific gravity, 1.006, and contained a large quantity of albumin, red blood cells, leukocytes and granular casts. On February 20 it was acid, specific gravity 1.016, and did not contain any albumin.

These three cases belong to a class in which previously I have always lost both mother and child.

In the early years of my practice, about twenty-five years ago, I used to treat the patients medically and all died. Then I did manual dilatation, and *accouchement forcé* and they all died. Then I turned to cesarean section under ether and was equally unfortunate, and so I had come to look on the cases as being necessarily

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fatal whatever might be done. I wish no one to be mistaken as to the class of cases about which I am talking. There is a vast difference in the chances of a woman taken with eclampsia when labor is present or has progressed more or less, and the chances of one taken with eclampsia in the eighth or ninth month of pregnancy all signs of labor being absent. It is of this latter class that I am speaking. All of these three women were *in extremis* and I am sure that with any other mode of anesthesia they would have been lost.

There was much doubt in my mind, before doing my first operation, as to whether or not the uterus would contract promptly and efficiently under this form of anesthesia, but in all of the cases the contraction was excellent and just as firm as when I have done cesarean section under ether.

Professor Babcock of Philadelphia writes me that he is quite sure that these cesarean sections are the first in the United States to have been done under spinal anesthesia; he thinks that they are the first to be reported from any country.

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SUBCLAVIAN ANEURYSM WITH SUCCESSFUL ENDO-ANEURYSMORRHAPHY

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Patient.—R. W., a boiler-maker, aged 38, was admitted to St. Vincent's Hospital March 12, 1912. He was pulseless and in extreme shock from loss of blood consequent on a stab wound just beneath the middle of the left clavicle, inflicted a few minutes before. By packing the wound and applying pressure over it, hemorrhage was checked. The shock was combated by intravenous infusion and other routine measures. Four days later, signs of aneurysm were first discovered on auscultating near the stab wound, which region was perceptibly bulging. Expansile pulsation and a thrill were evident to palpation. The left radial pulse was slighly weaker than that of the right side. He was kept in bed with rest and suitable diet for three weeks. During this time, he complained of considerable pain over the tumor and shooting down the arm. Beginning on the eighth day, powerful compression was applied over and just above the tumor three times daily, for a period of fifteen minutes each time. The pressure employed above the clavicle stilled the pulsation and bruit in the sac; likewise the radial pulse was obliterated. Following this procedure, the patient experienced complete relief from his pain. At the end of three weeks he refused operation, and left the hospital. Two weeks later he returned, complaining of much pain over the tumor, which had visibly increased in size. He was pale and very weak. Operation was decided on at once. His family and past history were negative. He had never had syphilis.

Operation.—The patient was anesthetized and an incision 3 inches in length was made about half an inch above the clavicle and parallel to it. The subclavian artery was exposed and a temporary tape ligature passed around it and tied at the point where the artery emerged from behind the scalenus anticus muscle. Next an incision 4 inches in length was made along the lower border of the clavicle, its middle corresponding to the bulging of the tumor. The sac was quickly opened and furious hemorrhage occurred. This was controlled with great difficulty by pressure, but in spite of all efforts blood kept welling up in such quantities that nothing could be done. Finally an aneurysm needle, threaded with a stout, heavy ligature, was passed around the artery, beneath the clavicle just proximal to the sac, the wounds above and below the clavicle having been made freely into one large wound. By a lifting and squeezing action with this ligature, all hemorrhage from the proximal opening into the sac was stopped. The bleeding from the distal opening was controlled by pressure, and a stitch taken across its lumen; when pulled on, this stitch effectually stopped all bleeding. It could now be seen that the aneurysm involved the third portion of the left subclavian artery, that it was the size of a small hen's egg and contained considerable fibrin, clots, etc., and that there were two openings about three-eighths of an inch in diameter, and a similar distance apart. No groove between the two could be demonstrated. The detritus was removed from the sac. The openings were then closed with interrupted chromic catgut stitches, four stitches being taken in the lower, and five in the upper. The temporary ligatures proximal to the sac were now removed; the sac remained dry. The sac was then closed with a running Lembert suture. The radial pulse, while quite weak on the left side, immediately after the operation, was easily felt, and the next day was equal in size and strength to that of its fellow.

Postoperative History.—Healing occurred by first intention, and convalescence was uneventful. The patient was kept in bed three weeks and then allowed to go about. Since the operation the left arm and side have been normal in all respects. The patient returned to his arduous work eight weeks after the operation. When he was seen three weeks later, there was no tumor, no bruit and no pulsation under the scar. The left radial pulse was similar in all respects to that on the right side. The patient feels well, and has gained 25 pounds. Although careful search has been made of the literature, no record of a successful aneurysmorrhaphy of the subclavian artery has been found. It is my belief that it was possible in this instance only because all the tissues involved were healthy. The most impressive thing about the operation was that ligature, above the sac, apparently had no effect on checking hemorrhage from the opened sac. It is possible also that the compression employed in this case accentuated an already free collateral circulation.

A CASE OF SPOROTRICHOSIS IN NORTH DAKOTA: PROBABLE INFECTION FROM GOPHERS

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A few cases of sporotrichosis have been reported in North Dakota. Probably many cases are not recognized. Diagnosis is easy if this disease is kept in mind. Potassium iodid occasions a prompt recovery. Ordinary surgical treatment is of little avail.

Patient.—G. A., a man, aged 19. Five weeks before examination, while at Tappen, N. Dak., a lump like a "boil" appeared on the dorsum of the right hand. No pain, tenderness, fever or other constitutional symptoms were present. A few days later subcutaneous nodules began to appear on the back of the right forearm. On examination there was an ulcer about 1 inch in diameter on the dorsum of the right hand. The ulcer was raised and contained thick gelatinous pus. There was no pain, tenderness, fever or headache. Three nodules on the back of the right forearm were similar to that on the hand except that there was no ulceration. There was a distal nodule about one-half inch in diameter, raised and purple-red in color. Other nodules were smaller. Proximal nodules were wholly subcutaneous and not adherent to the skin.

Culture.—On blood-serum a number of snowy white colonies appeared in three or four days. Two days later the colonies were brown. A smear from the culture showed a branching mycelium with oval or ovoid spores.

Source of Infection.—Patient was on a farm at Tappen, N. Dak., but states that none of the cows or horses had any sores. Many gophers that he killed and handled had sores similar to that which later appeared on his hand. As sporotrichosis is present among rats, it is probable that gophers may be infected with this disease.

Treatment.—Tincture of iodin was applied locally and potassium iodid, 10 minims, was given three times a day. In ten days the ulcer had nearly healed and the nodules had almost disappeared.