

ON PRESERVING EMBRYOLOGICAL MATERIAL.

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Preparing some work on the development and the anatomy of the brain, I beg to bring the following appeal for coöperation before the members of the profession:

It is necessary to start the work on as broad a basis as possible, and for this reason it can not be done without the active coöperation of the practitioners. It is my desire to show that a large city like Chicago can, notwithstanding its short existence, make up for a long period of preparation with its youthful energy and take at once, as it did in many respects through the Fair, a place in the foremost ranks of scientific centers. This energetic progress shows itself in every line of scientific research, and I feel confident that an appeal for help in promoting our knowledge of the nervous centers will not be in vain.

Embryological material becomes of value only if a sufficient number of stages are collected and displayed in an instructive series of development. Such a museum will, I hope, be one day the pride of Chicago and furnish the best ways of instruction, far superior to book learning and drawings. The preparation of the material is not connected with much inconvenience. It is, however, necessary that certain rules should be observed, which increase the value of the specimens materially.

Very early stages which are sometimes found in the blood-clots of "very profuse menstruations" are best put into a 10 per cent. solution of nitric acid for a quarter of an hour and then into an abundant quantity of 70 per cent. alcohol. If the fixation with nitric acid is not possible, it will be quite sufficient to put the ovum at once into the 70 per cent. alcohol.

This method will answer its purpose up to the fourth month. From the fifth month, however, it will be preferable to preserve the material in Müller's fluid (bichromate of potash $2\frac{1}{2}$ per cent. and sulphate of iodine 1 per cent. dissolved in water). This method is somewhat more complicated, inasmuch as it requires a little more attention. The fetus—in later stages only the head and perhaps the spine—is immersed in a large quantity of the fluid. It is best to open carefully the cranial cavity in order to give direct access to the fluid; the removal of the parietal bones or at least their partial removal will answer best the purpose. On the second and fourth day the fluid should be changed. Under all circumstances the fluid must be abundant.

Preference is given to Müller's fluid in the later stages of embryonic life and in the new-born child, because not only the surface anatomy (convolutions, etc.), is of importance in these stages, but especially the development of the medullary sheaths of the fiber tracts which takes place at different times and affords a most useful help for the study of special tracts.

With regard to the jars, preserve jars of an appropriate size can be obtained in every grocery store. It will not be inconvenient to keep a 5-gallon jug of Müller's fluid and a gallon or two of 70 per cent. alcohol ready all the time.

The specimens should be accompanied by a short note on time of last menstruation, time of beginning

abortion or labor, and time of expulsion and further the time when put into the hardening fluid. All the specimens will be duly acknowledged.

It is evident that monstrosities offer much of interest with regard to the nervous system. The same would hold for pathological conditions in children and adults. With regard to the transportation, specimens may be sent for when brought to one of the Chicago down-town offices, or they may be sent to the Kankakee Hospital by express.

Kankakee, Ill., Jan. 27, 1894.

DISLOCATION OF CERVICAL VERTEBRA.

DEATH—CASE RECORD AND NECROPSY.

BY G. W. BROOKE, M.D.

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Early on Wednesday morning Nov. 29, 1893, I was hastily summoned to visit a neighbor, Mr. Chester Allen, a strong, healthy man, age 50 years, living but a short distance from my residence. I found him in his barn, and learned that he had fallen a distance of about seven feet, through a hatchway, to the floor beneath. As near as could be ascertained, the accident occurred about three-quarters of an hour before. He was insensible for a time after he fell; how long a period he was unable to say, and when consciousness returned, he found that he was entirely helpless, and unable to make himself heard. He complained of intense pain in his neck, a few inches below the occiput, and on examination, I found complete paralysis, and loss of sensation below the seat of injury; heart's action very slow and feeble; pulse imperceptible at the wrist; extremities cold. Without waiting to make further investigation, he was immediately taken to the house, and on careful examination, the neck was found to be dislocated, the head turned considerably to the right side, and the deformity apparently about the fifth cervical vertebra, and very marked. As soon as the diagnosis was clearly made, I grasped the head firmly with both hands, and used all the strength I could command by way of extension, at the same time gently rotating the head so as to bring it in line with the body, as the extension was continued. This procedure occupied but a moment of time, and one of the friends who was bending over the patient, assisting me in the operation, says that he distinctly heard a grating sound, when the dislocation was reduced.

The moment the dislocated vertebra was put in position, the patient could see; before this he was entirely blind. He also expressed himself as feeling much relieved by the operation; extension, however, had to be continued almost constantly, or the pain in the neck would recur with great severity.

Vigorous efforts were now made to warm the patient, and bring on reaction—stimulants and heart tonics were administered liberally, the patient swallowing fairly well, and as the pain in the neck grew worse, morphin was used hypodermically. In about six hours reaction was fully established; the pulse beating 50 per minute, strong and regular, respiration from 10 to 12. The thoracic and abdominal muscles, however, were unable to participate in the respiratory movement, so that respiration was very imperfectly performed. The patient could now speak audibly. He took sparingly of nutritious liquids, which required some care in swallowing. His mental faculties were not in the least disturbed by his unfortunate condition, and he was able to transact business as intelligently as though nothing had occurred.

The case continued in this condition for about eight days, when the pulse became gradually more frequent, and weaker, the breathing more hurried, the inability to swallow greater, prostration more marked, sleep more fitful and disturbed. It is needless, perhaps, to say that the catheter had to be used. The kidneys, after the first twenty-four hours, acted freely, and so continued while he lived. His bowels moved freely, in response to cathartics and enemas, the sixth day after the accident, and continued to move, passively, after this, up to the time of his death.

On Thursday evening, December 7, the unfavorable symptoms all became more aggravated, the heart's action was exceedingly feeble, and the patient himself was conscious that his dissolution could not be delayed much longer. He died at 1 P.M. the following day.

When I first explained to him the very serious character of the injury he said to me: "I am in your hands. Do with me and for me as you may think best."

During the entire time of his existence, after he rallied from the effects of the shock, his intellect and mind were as active and bright as when in health.

I have, in the army and elsewhere, seen many cases of injury and death from violence, but never before had a patient that possessed such a remarkable fund of fortitude and patient endurance as Mr. Allen manifested under such painful and distressing circumstances.

He was one of the bravest, best and most philosophical patients that I ever had. In addition to this, his Christian profession, faith and character were from the time of the accident to the close of his life, made more manifest and more deeply intensified, as he approached the end.

At the autopsy, held on Monday the eleventh, the following named gentlemen were present: Drs. Wagner, Hughes and Brooke, Messrs. Kirk, Ressler and McNeilly, Dr. Wagner making the examination. All of the cervical, and one or two of the dorsal vertebræ, were removed. It was found that the dislocation involved the fifth and sixth cervical vertebræ, the attachment between these bones being completely torn asunder, and at the time of the injury, the vertebræ were widely separated, but *now* in proper position. The ligamentum nuchæ was lacerated a short distance from its attachment to the spinous process of the vertebra; considerable clotted blood was found near the seat of injury in the muscular tissue, adjacent to the spinal column. On examination of the cord, the membranes were found ruptured, at a point corresponding with the injury to the spinal column. The cord at this point and below as far as examined was softened, and completely disorganized. The line of demarkation between the softened cord, at and below the injury, and its firmness and elasticity above, was very distinct and well marked, showing plainly that the vitality of the cord, below the seat of injury, was destroyed when the accident occurred.

OVARIOTOMY IN THE AGED.

Read before the Mississippi Valley Medical Association at Indianapolis.

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To define clearly the limits of my topic, ovariectomy in the aged, I will take the Biblical division, that of three-score and ten years, and confine my remarks to patients who are 70 or more years of age. It is generally conceded as true, that any operation upon the old does not promise as good results as the same operation would upon the young, or patients in middle life. Especially is this true, in reference to all abdominal operations necessitating a hard strain upon the system from shock, or from traumatism to vital organs during the operation, as we not infrequently have in the removal of large ovarian tumors. Most writers, in reporting their operations upon the old women, and most textbooks, would have us believe that women 70 years old and upward are exceedingly bad subjects for ovariectomy. I am strongly inclined to the opinion that this is an error, and it is for this reason that I bring the subject before you at this time. Taking all of the reported cases of ovariectomy at my disposal, performed on women of 70 or more years of age, the

mortality is very low. Especially when we take into consideration the complications, which necessarily had to be overcome in making the operations, with the facts that a large majority of these operations were delayed operations with many adhesions, large tumors and lowered vitality. The death rate is not greater in my judgment than usually follows the same delayed class of operations on women between 40 and 50 years of age. It has been asserted by one of the most distinguished writers upon this subject, that the last word on ovariectomy has been uttered; that the mortality has been reduced to a minimum, and the technique completed. While this may be true, I am inclined to believe that there are some points in reference to operations upon the aged, on which the profession are not united. It is possible that some operations upon the aged have not reached us through medical literature, yet we must believe that most of them have, and if we take them as our guide in making our deductions we certainly can not regard ovariectomy upon this class of patients as dangerous an operation as is generally supposed. I have had but three ovariectomies upon women above 70 years of age. In each of the first two cases, the friends of the patients hesitated to have the operation made on account of the advanced age of the patients, just as long as it could possibly be postponed. In each of these, the operation was deferred until the patient was in extremis.

Case 1.—Mrs. K., age 70, residence South Salem, Ohio. The operation was reported in full at the Ohio Medical Society in 1887, and can be found in the Transactions of that Society for that year. She had been conscious of the existence of the tumor for more than two years. Owing to an accident which occurred some forty years before the operation, injuring the patient's hip, she had led a very sedentary life, and had been considered an invalid for more than thirty years. For three months before my first visit she was unable to leave the room. When I first saw her Aug. 26, 1886, she was sitting half reclining in a chair, which position she had been compelled to keep for more than two months. Her pulse had been frequent and feeble for many years, and at that time as she reclined in the chair the radial pulse was barely perceptible. For two months she had anasarca of the legs, which were twice their natural size below the knees and from an abrasion upon each the dropsical fluid was discharged in great quantities. It was decided to tap the cyst with the hope of relieving her. This was done and four gallons of fluid withdrawn. This relieved her urgent symptoms somewhat for a short time, but at the end of four weeks she was again unable to rest in bed and was compelled to assume a sitting posture. She now insisted upon an operation which was performed Sept. 23, 1886. The cyst was firmly adherent to the whole anterior wall of the abdomen, as well as to the omentum, which had to be divided between successive ligatures. The posterior surface of the cyst was adherent to the small intestine and three separate coils of intestine of about one foot each were removed from the cyst with great difficulty. The bladder was spread out over the front of the cyst like a great fan and was very firmly adherent and had to be dissected from it. The hemorrhage was severe and a great number of vessels were tied. The tumor and contents weighed fifty-nine pounds. Her recovery was uninterrupted and on the twenty-fourth day she was able to leave her room, and is now at the age of 77 years, enjoying good health.

Case 2.—which has also been reported in full in the *Lancet Clinic*, is Mrs. C., age seventy years and six months. Aug. 31, 1891, while alighting from a street car she slipped and fell, causing a sharp pain in the abdomen, yet she was able to walk a short distance to her home. Two days afterwards she called her family physician, Dr. George Coner of Cincinnati, who found her suffering from acute peritonitis. She gave a history of having some abdominal enlargement for the past six months. The Doctor had no difficulty in detecting the tumor which was irregular in outline. The abdomen was very much distended. I was asked to see her in consultation the same day, July 2, and had no hesitation