{ ESKRIDGE (J. T.)
& McNAUGHT (F. F.)

Traumatic Cyst of the Brain from an Injury received Twenty-five Years before.

EPILEPSY; OPERATION; RECOVERY.

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HISTORY AND NEUROLOGICAL REPORT BY DR. ESKRIDGE.

Mr. L. L. S., thirty-five years of age, born in Tennessee; married; white; tobacconist by occupation; has lived in Colorado eleven years. Consumption in relatives of both father and mother. Mother suffers from migraine. There are no other points of importance in the family history. The patient's health in childhood was good, with the exception of migrainous headaches, which began when the boy was three or four years of age, and from which he suffered two or three attacks each month. When he was nine years old he was kicked on the head by a colt only four months old, the hoof striking about an inch and a half above the external third of the left supraorbital ridge and fracturing the skull. He was rendered unconscious by the blow, and considerable brain substance was lost through the wound. The depressed bone was not elevated, but after the physician

had passed his finger into the brain he stitched the soft parts together. The boy regained apparent consciousness in about twenty minutes, and within a month or two after the injury he was able to be out and play with the children of the neighborhood, showing no obtrusive evidence of mental impairment. While to the parents there seemed to be no mental disturbance after the first shock of the blow had passed away, yet, in fact, consciousness was blurred for some time. The first thing that the patient remembers after the accident was his going to school, which occurred eleven months subsequent to the receipt of the injury. He remembers distinctly playing with the colt before he was kicked, and the name of the boy who was with him at the time, but does not remember being injured, nor can he recall the slightest incident of his experience during the first eleven months that elapsed subsequent to the injury, although for nine months of this time he was to all appearances in a normal mental condition. His health continued good up to his nineteenth year, and even the headaches from which he had suffered before the head injury rarely occurred. At his nineteenth year, after exposure to the sun's rays, he began to complain of constant headache, and suffered from occasional attacks of unconsciousness, during which he could not talk, but simply made a gurgling noise in the throat. On one occasion he had a series of these, each lasting for a few minutes and recurring about every hour for a number of days, but they gradually lessened in frequency, until the end of the tenth or twelfth day, when they ceased. After the cessation of these spells he was apparently as well as before they occurred. Between each attack of this series, in the early part of it, he lay in a semiconscious condition, apparently taking no notice of anything, simply eating and drinking when food and liquids were placed in his mouth. As the attacks became less frequent, consciousness returned during the intervals. Since his nineteenth year he has had three general convulsive seizures on three different occasions, before the occurrence of the convulsions for which Dr. McNaught was called to see him. The three convulsions referred to were brought on by indulgence in alcohol and exposure to the sun's rays.

The patient's mental condition seemed to be unimpaired up to about his twenty-fifth year, when the first convulsion precipitated by alcoholic indulgence occurred. From that time on memory and self-control seemed weakened, and he became more irritable and dependent.

On Monday, September 6, 1894, after indulging in alcohol, he had a severe convulsion and lay unconscious for thirty-six hours. On the evening of the next day he had two convulsions which were general and quite severe. On the third day he had eleven general convulsions, and on the fourth, fifteen, all of which were severe, and during the intervals between none of them did he show any evidence of returning consciousness. After the convulsions ceased, on Thursday, September 9, 1894, he remained in a semiconscious condition until the following Sunday night, when I saw him, in consultation with Dr. McNaught. At that time, if left alone, he lay in a stupid, drowsy condition; if roused, he would answer a question, but his answers were unreliable. On account of his mental condition the examination of the special senses and general sensory phenomena was unsatisfactory. The knee jerks were found increased, the left slightly more than the right; ankle clonus was absent; tendo Achillis slight; plantar reflexes were present, but slight; cremaster and abdominal reflexes were absent; the deep reflexes of the arms were about normal; dynamometer—right, 140; left, 120. There was no paresis or paralysis of any muscles, nor involvement of any of the cranial nerves. The pupils were normal in size, and responded readily to light and accommodation. Vision seemed to be perfect. The ophthalmoscope showed no distinct change in the retinæ or optic nerves, although the left disc was apparently hyperæmic, and the edges of the nerve were a little whiter than normal. Hearing: watch—right, $\frac{4}{12}$; left, $\frac{2}{12}$; the tuning fork was heard better in the right ear. Temperature was 99° F.; pulse, 80; respiration, 20. Constant headache, localized in the left frontal region, was complained of. Mental hebetude was well marked. The presence of the depressed fracture of the frontal bone, together with the localized headache, was the only evidence of focal brain lesion. It seemed to us that the most probable lesion to

give rise to the symptoms in the present case was a localized meningitis caused by depression of bone. An exploratory operation was advised, and readily acquiesced in by the family.

OPERATION AND SUBSEQUENT HISTORY. BY DR. MCNAUGHT.

The patient was transferred to St. Luke's Hospital on September 12, 1894, the day preceding the operation. The hair was removed from the head and face and the parts thoroughly cleansed with antiseptic soap, and the head incased in bichloride dressings, in which the parts remained until just immediately before the operation, when they were again cleansed with an antiseptic solution and washed with ether. A semilunar flap was made, which included all the old cicatricial tissue and extended two inches posterior to the original fracture. The flap was turned backward and an effort made to separate the pericranium, but this was found to be impossible over the seat of the old fracture, as the pericranium was continuous with the fibrous membrane which extended into the brain cavity. The bone was found depressed, and covering the opening in the bone was a dense membrane composed of fibrous tissue. This was also continuous with the pericranium and with the fibrous membrane that extended into the brain along with the depressed bone. On dissecting the parts, it was found that at the time of the injury a fracture had occurred in the bone, triangular in shape, about an inch in its longest diameter and three quarters of an inch at its base, with the apex of the triangular piece of bone depressed deep into the brain substance, almost at right angles to the skull. Connected with the depressed bone a cyst was apparent, and the trephine was applied about an inch posterior to the base of the fracture and a button of normal bone removed. By the use of the bone forceps the depressed bone was loosened, but on attempting to remove it a distinct convulsion was observed, involving all the muscles of the extremities as well as of the face. After removing the spicula of bone a large cyst was discovered, occupying a space in the frontal lobe about two inches and a half in its longest diameter by one and a half to two inches in its transverse. The contents of the cyst were a straw-colored watery fluid, and the

walls of the cyst were firm and fibrous in nature. After evacuating the contents of the cyst the inner surface of the sac was scarified and the cavity packed with iodoform gauze, the scalp returned to its normal position and sutured, sufficient room being left, however, to permit of repacking the cyst cavity. After dressing the wound the patient was placed in bed and rapidly reacted, very little shock being apparent. The temperature did not rise above 100° F., and usually remained at about 99° F. At the end of four days the dressing and packing were removed, when it was found that the cavity of the cyst had been reduced to about one half of its original size. The cavity was again repacked and the wound redressed, and at the end of eight days from the operation it was found that the cavity was practically obliterated. The patient's mental condition rapidly improved within two or three days after the operation, and at the end of two weeks he was able to leave the hospital feeling quite well.

On April 6, 1895, the patient reported that he felt quite well, was free from headache, and his memory and powers of mental concentration had much improved. During the latter part of January of the present year, after indulging in two or three drinks of whisky one day, he awoke next morning feeling languid and suffering some from headache; found the tongue bitten, and his pillow bloody. Four days later, after taking four drinks of beer, he had a similar experience. Since then he has not indulged in alcohol, and has been free from convulsions and discomfort in the head.

The convulsions of recent occurrence evidently have been less severe than those he had before the operation, as he states that formerly a fit left him in a confused mental condition for several hours.

The recurrence of the convulsions in this case after the removal of the cyst teaches us that, after getting rid of the original cause of epileptic seizures, the fits may recur from trivial excitants. The presence of a foreign body, as a cyst or a tumor, in the brain for a length of time gives rise to structural changes in the surrounding brain sub-

stance, and probably to a greater or less extent interferes with the normal functioning power of the cells of the entire brain, so that an unstable and weakened condition of the brain remains for an indefinite period after the removal of the offending agent. Besides, when the growth is in contact with the membranes a thickened and inflamed state of the meninges is left behind for some time. In cases of convulsions due to the presence in the brain of a tumor, cyst, or depressed bone, after the removal of the cause of the original convulsion, the same precautions should be employed in avoiding all the ordinary exciting causes of the fits for some time after the operation as before it. Further, it is good practice to place such cases upon one of the bromides for several months to a year or two after the removal of the growth, in order to lessen the abnormal irritability of the brain cells. As alcohol, both before the operation and after it, has been the apparent exciting cause of all the convulsive seizures, it must be entirely proscribed in this case.