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I.

Three Cases of Spina Bifida successfully treated,

By AMASA TROWBRIDGE, M.D.

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CASE I.—On the 20th of June, 1827, a son of G. S., Esq., aged 1 year and 9 months, who was a subject of *spina bifida*, was presented to me for advice.

The tumor was situated over the lower cervical vertebræ. It was as large as a common sized egg, entirely covered with cellular substance, and gave sensible fluctuation. The child had been healthy from birth, with the use of all its limbs, and healthy secretions. The parents were informed, at its birth, of the dangerous nature of the complaint, and the probability of its fatal termination.

Contrary to the opinion generally entertained by surgeons, I advised an operation for a cure. The parents consented, and the

following mode was adopted, viz :—A small silver wire was put round the base of the swelling, passed through a short canula, and brought moderately tight, so as to produce slight inflammation on the surface at the base. In forty-eight hours the wire was brought tight enough to destroy all circulation in the tumor. In twelve hours, the child became restless and feverish. Gave calomel and laudanum mixed. Several discharges from the bowels followed. In forty-eight hours, the tumor became dark-colored, suppuration took place around the wire, and it disappeared in the divided integuments. I passed a scalpel on the outer side, close to the wire, and divided and separated the outer portion. The wire slipped off and left an inflamed portion, three-quarters of an inch in diameter, with an aperture in the centre through which there was discharged turbid lymph or serum. There was feeble jetting of blood

from several small arteries, which was easily restrained by a dossil of lint. A preternatural opening was perceptible between the two lower cervical vertebræ into the spinal canal. Dressings,—a pledget of lint and compress and bandage around the neck, breast, and shoulders. In forty-eight hours, removed the dressings. Inflammation subsiding in the integuments around the wound occasioned by the wire; healing process going on in every part of the wound; discharge of fluid from a small opening in the centre. The child's health continued to improve daily from this time. New dressings were applied occasionally for twelve days, at which time the wound was healed, and but little protuberance could be discovered at this place. The child has continued well, and is now as healthy as any other.

CASE II.—Son of A. Clark, aged 2 years and 6 months, was presented to me on the 13th day of May, 1827. The child appeared healthy, with the use of all the limbs, except the thumb and forefinger of the right hand, which were drawn close on the palm. The child could not raise them voluntarily; but when raised by the other hand, or by another person, he would grasp any substance firmly.

There was a large tumor situated over the three lower cervical vertebræ. It was represented as having been very large at birth; and it now measured seven inches in circumference at its outer portion, and something less at its base; and about four inches in height. It was covered with integuments and natural skin; fluctuation was very perceptible. From its large

size, the child was much incommoded by it at all times, but particularly when lying down. Inflammation had occurred several times in it, and ulceration followed over the surface, which was painful and difficult to heal.

I advised its removal by an operation. The wire and canula were placed on its base, and the process conducted in a manner similar to the one above described. The base being so large, the ligature was suffered to remain four days after its first application; it was then drawn so as to prevent circulation. Three days after, it was drawn yet tighter. The child, during the greatest part of this time, suffered with symptoms similar to phlegmonous inflammation. Calomel and opium were given, as in the other case. Nine days from the first application of the wire, I separated the outer portion above the ligature, with a knife, which was principally sphacelated. The ligature came off, and a spouting of a wineglass of lymph, which was turbid and tinged with blood, followed from the spinal canal, through a small opening in the centre of the part divided. Bleeding followed from an artery that required securing with a ligature.

The wound was dressed with lint, compresses and bandage. The general treatment was similar to that observed by surgeons in large wounds on children. For the first eight days there was a large discharge of fluid from the aperture; after this it diminished gradually, and in four weeks from the operation, the whole wound was cicatrized and sound. There is now evidently an incomplete state of the vertebræ at this point. A spinous process is wanting,—

there is a cavity and an opening through the vertebræ, which admits of the point of the little finger. There is no bulging of the parts or enlargement. I saw him yesterday at play in the snow, with other boys, in good health, and entire use of the right hand, and to appearance every way sound; and a history from the parents corroborated this opinion. The portion of tumor removed contained a membranous sac or cyst, filled with near a wineglass of lymph.

CASE III.—Was a son of John Earl, aged 4 years and 3 months. I was consulted, in his case, in the month of September last. He was born with a large tumor, situated over the sacrum and three of the lower lumbar vertebræ. Several physicians saw the child soon after its birth, explained the nature of the case, and predicted a fatal result. Contrary to opinions given, the child continued healthy; and when presented to me for an opinion, was as promising and fine a child as any other, except an enormous enlargement over the vertebral column, as above described; which sometimes produced pain when sitting in a chair, or in walking, and much deformity. This tumor, at this time, measured thirteen inches in circumference at its base, and seven in its projection from the back. It appeared like a large female breast, with evident fluctuation in the centre. It had a projecting portion near the lower part, over the sacrum, resembling the penis of a boy of that age. At the upper portion, near the surface, on the right side, a bone could be felt, passing through towards the spine of the ilium.

the left side; it was loose and easily moved.

I advised an operation for a cure, which was made in the following manner, in the presence of several medical gentlemen. The child was placed on a table, with its back presented. I made an incision through the integuments, from the upper portion of the base on each side, quite to the lower part, over the sacrum, leaving enough to cover the wound. I was governed, in this particular, by the principle observed in the removal of the female breast. On dividing the integuments, which were about an inch thick, a cavity was presented, which contained several cysts or sacs, which resembled intestines, and which were thought, on their first presentation, to be portions of the colon pushed through a cavity in the spine; but, on raising them, I found they were filled with fluid, which passed through the whole, and were attached to the spinal process of the second vertebra from the sacrum. The processes above and below were wanting, and in their stead a cavity was formed, which contained portions of the above mentioned cysts, which were easily pushed out with the finger. Finding there was no communication into the abdomen, or spinal canal, I removed the whole by dissecting and dividing membranous attachments near the spine and muscles.

The bone which passed obliquely through the tumor, I now found to be similar in appearance to the false ribs. The end near the integuments was cartilaginous, and a cyst was attached to it. The other extremity was attached by ligament to the spine of the ilium. I raised the outer portion and di-

vided it with a saw, sufficiently low to leave a smooth and even surface after the integuments were brought over. Four arteries were divided and secured with ligatures; the principal, and a large one, was near the spinal process described. On examining the cysts after their dissection, they contained a half part of gelatinous fluid, of a dark cinnamon color. There was a passage from these cysts large enough to admit a probe to the penis-like projection; and there had been a discharge of fluid from this, in the early part of the child's life. The cysts in every respect resembled intestines. The wound was dressed with sutures, adhesive straps, and compress and bandage around the body. The child endured the operation well, and, to the great satisfaction of the parents and friends, has entirely recovered.

Remarks.

I do not wish, by making this communication public, to be understood that I believe all cases of *spina bifida* can be relieved or cured. I know there are many that soon destroy the child, and some that prove fatal, even at their very birth, by being torn off in that process. Three cases of the latter I have witnessed. I have seen about thirty cases; and have seen them situated upon every portion of the vertebral column, from the occipital bone to the sacrum, of various sizes and appearances, and have made many attempts to relieve unhappy sufferers from their embarrassments, by puncture, compression, ligature, incisions, &c. &c., and have failed in my efforts in many instances. But after all, I must believe there are cases that can

be cured; and if the surgeon makes the necessary distinction in cases, he may venture, with as much assurance of success, as he does in other maladies that require operations. It has been supposed by some, that in all cases there is a communication from the outer cavity, through the spinal canal, to the brain: but this is not a fact. There are cases where the opening through the vertebra does not extend far into the canal, and where the spinal marrow is not compressed by fluid or deranged in its functions, and many of these cases may be cured by surgical interference. The external tumor, in these cases, is generally covered, entirely, with integuments, and appears very firm, not easily compressed, very elastic to the touch; yet fluctuation is perceptible. In this case the dura mater is the only lining membrane of the cavity in the tumor, and the fluid contained in this does not extend far in the canal after passing the aperture in the spinous apophyses. In the other cases, and these are much the most frequent, there is a thin, almost transparent membranous covering on many parts of the tumor, and sometimes the greatest portion of it. The tumor is easily compressed, &c., and the subject is always attended with loss of voluntary action in some of the muscles, and sometimes with derangement in the secretions. Here, the fluid is contained in the cavity of the arachnoid, and may extend the whole length of the canal; and M. Bichat and other anatomists assert that it can extend even to the lateral ventricles of the brain.

The case reported above of

Earl's son, was a very uncommon one; and it may, by some, be doubted whether it is properly named. At the time of the operation, there was no opening into the canal; yet there was a malformation of the spine; two of its processes were wanting; two of the vertebræ were flattened and had deep concavities; and I have no doubt there were openings through both, at an early part of the child's life.

I prefer the ligature in all cases when the base of the tumor admits of its application; applied in the first place tight enough to produce moderate inflammation. After this, the patient does not suffer so much in bringing it so tight as to destroy circulation; and its sympathetic effects are much diminished.

Watertown, Jefferson Co. N. Y.

December, 1828.

II.

Strictures on the Diseases of Young Children.—From Lectures delivered at Guy's Hospital,

By Dr. JAMES BLUNDELL.

OF the diseases of infants, it is not my design to treat at large, as such an undertaking would lead me into longer disquisitions than the limits of our course will admit. In this and the following Lectures, however, I shall endeavor to make a few strictures on this important topic, confining myself, in the main, to that sort of information which may be of use at the bedside, beginning with those affections which belong to the department of surgery.

When labors are laborious, in consequence of resistance to transmission, whether from rigidity

coarctation, or unfavorable position of the fœtus, it happens, not unfrequently, that the scalp becomes intumescent, the tumor commonly lying to the one or other side of the vertex.—This swelling rarely requires art, though fomentations and lotions may sometimes be used as placebos, the tumor wasting, in most cases, in the course of a few days, so that the part soon acquires the natural appearance. Accumulation of the scalp, and perhaps effusion into the cellular web beneath, appear to be, in most cases, the causes of the intumescence. With these swellings of the scalp, inflammation and suppuration are now and then combined, though rarely; these, so far as I have hitherto seen, doing very well, as treated on ordinary surgical principles. Suppuration is, I suspect, generally external to the tendon of the occipito-frontalis muscle. Inflammations of the scalp in infants are, perhaps, more dangerous than similar inflammations in the adult, as the vascular communications between the inner and outer surface of the cranium are numerous and free.

The cranial bones, as may be seen in this faithful model, are exceedingly moveable, and hence, in laborious labors, they frequently become displaced; the occipital bone being pushed, perhaps, beneath the posterior edge of the parietals, or the margin of one parietal bone becoming lodged beneath the margin of the other; not to mention that the whole cranium may be thrown back upon the occipital region, or so dislocated, that the summit rises preternaturally above the basis, as may be seen in the crania of certain savages, when deformed by