RADICAL CURE
OF A
LARGE SPINA BIFIDA IN AN ADULT.

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ALICE A—, æt. 27, was admitted into the Manchester Royal Infirmary July 11th, 1883, with a large spina bifida situated in the lumbo-sacral region. She described the tumour, which had existed from birth, as having remained about the size of an ordinary hen's egg until she had attained the age of twenty-one, without causing her the slightest inconvenience. When eighteen years old she contracted an unfortunate marriage, which terminated in a complete separation within three years. During this short period she cannot remember any change taking place in the character of the tumour, or that she suffered from any symptoms which she could attribute to its existence. After leaving her husband, her circumstances compelled her to adopt means of earning her own living; and for this purpose she obtained a situation as a "hooker" in a printing warehouse, where she was employed in duties that involved the lifting of heavy goods and other offices

of an arduous nature. From this time she dates, and to the laborious work she ascribes, the first change that took place in the tumour, which had remained for so many years a passive and unobtrusive malformation. For eight years she continued her employment, and during this time the tumour gradually increased in size; and coincident with the enlargement symptoms of a distressing character developed. She commenced to have severe headaches, attended with nausea and vomiting, attacks of vertigo, and transient moments of defective vision, whenever the tumour was subjected to pressure, even that of the clothing. These symptoms were intensified whenever her duties required that she should bend her body. The dimensions of the tumour also commenced to make locomotion difficult and awkward. The size of the tumour was always the greatest in the evening. She followed her employment eight years, when she had to abandon it altogether from a total incapacity to continue it any longer, the intervals between the attacks having become rare and shorter in duration.

When she was admitted into hospital the tumour was sessile, pyriform in shape, of regular outline, and situated over the sacrum. The base was three inches higher than the iliac crest, and the apex extended to within an inch of the tip of the coccyx. The dimensions were :

Circumference	.	.	.	22 inches.
Transverse measurement	.	.	.	12 „
Vertical measurement	.	.	.	10 „

The appearance of the patient before and after operation is well represented in the woodcuts, page 129. The skin covering the tumour was healthy, though evidently much attenuated; there were several large veins traversing its surface. At the upper border there was a circular somewhat depressed patch of cicatricial tissue suggestive of ulceration having occurred at this point during infant life. The tumour felt tense and elastic, and there was clear evidence of fluctuation. Pressure produced pain in the head and a feeling of tension behind the eyes. By means of transmitted light (the oxyhydrogen lamp being employed) the tumour was shown

to be translucent, and it was easy to define through the breadth of the tumour the contour of a small coin, or the edge of a card placed between the light and the opposite side.

August 17th.—The tumour was tapped with one of Southey's fine trocars, and 12 oz. of fluid withdrawn, but this only slightly diminished the size of the swelling.

The fluid was examined and found to contain $\frac{1}{18}$ albumen, no sugar, and had a sp. gr. of 1025.

Notwithstanding the careful application of collodion to the aperture made by the trocar, the fluid continued to escape for the succeeding twenty-four hours, and on the following day the tumour was found quite small and flabby. Advantage was taken of this opportunity to examine the connection between the sac and the spinal column.

By invaginating the skin, a finger could detect a deficiency of triangular shape corresponding to the last lumbar vertebra and the upper part of the sacrum. The aperture apparently measured about an inch and a half by one inch. The collapse of the tumour was succeeded by six days' constant and violent headache, associated with nausea and vomiting, pains between the shoulders, and a burning sensation in the muscles of the legs and arms. These symptoms continued with unabated violence for six days, when they were promptly arrested by the introduction of an old-fashioned seton behind the neck.

On the 4th October the seton in the neck was discontinued and under the ordinary antiseptic precautions a single horsehair was passed through the tumour, with the intention of testing the effect of gradual drainage. The tumour was covered with gauze dressings, and these were changed whenever it was observed that the fluid had soaked through them. On the third day the horsehair was replaced by a double strand of fine silver wire (No. 27) as the horsehair did not keep the aperture open. On the fourth day the tumour had entirely collapsed for a second time. During the process of drainage, the patient's symptoms assumed an alarming character: violent head-

ache, sense of fatigue in the legs, vertigo, sickness (every meal being rejected), retention of urine. For seventeen days in which the drainage treatment was continued, the catheter had to be constantly used, and the pains controlled as effectually as possible by morphia administered hypodermically. During this time it would be impossible to estimate the quantity of fluid that escaped; however, forty-eight hours was a sufficient time for the tumour to refill. On the 21st October, as the constitutional symptoms continued of a most distressing and alarming character, high temperature (102°), acute pain in the entire length of the spine, spasmodic contraction of the dorsal muscles, and cramp in the muscles of the legs, the actual cauterization was freely applied in lines to the entire surface of the tumour, as a powerful and prompt counter-irritant, and the integument was immediately coated with collodion. From this time the patient's general symptoms rapidly subsided, and on the second day she was practically free from any symptom calculated to excite alarm. On the third day, after the application of the cauterization, the tumour was aspirated and 3 oz. of clear fluid withdrawn; on the fifth day, $2\frac{1}{2}$ oz. were abstracted and found to be slightly tinged with blood and to contain flakes of lymph. On the twelfth day, 6 oz. of thick pus were withdrawn. On the thirteenth day, chloroform was again administered, and the tumour was laid open by a single incision from the top to the lowest point; a quantity of pus was evacuated. The cavity was loosely packed with iodoform gauze.

December 20th.—Convalescent.

The patient was present at the meeting for the inspection of the Fellows, having made a complete recovery, and suffering in no respect whatever from her previous ailment.

The following appear to be the most obvious conclusions to be drawn from the foregoing case:

1. That the walls of the sac consisted of dura mater and arachnoid matted together; and that it merely contained subarachnoid fluid and possibly some of the posterior nerves, but no portion of the cord itself.

2. That the aperture of communication between the spinal canal and the tumour was small from the first ; and that probably from some cause the canal became occluded or reduced to such fine proportions that no material impulse was conveyed by the fluid from the central cavity to the interior of the tumour.

3. That this case may with advantage be studied, in conjunction with that reported by Erichsen in 'Science and Art of Surgery,' 7th edit., vol. ii, p. 290.

4. That the favorable termination of the case must, I presume, be attributed to the antiseptic precautions and the traumatic inflammation induced by the application of the actual cautery, when the plastic character of the inflammation closed the communication.

5. That the result of the case suggests the propriety of testing the efficacy of the actual cautery in other cases of spina bifida, where it may reasonably be supposed that the tumour contains neither the cord nor anterior nerves of the spine.