SPINAL CORD TUMOR IN A NEWBORN*

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CASE REPORT

W.G.H. #71685. D.B., a white male child, was born Dec. 15, 1953 at the Maternity Pavilion of the Winnipeg General Hospital following a normal pregnancy in a healthy primipara, aged 32. Labor was normal; the first stage lasted 24 hours and the second stage 15 minutes. Outlet forceps were used. The infant cried immediately and was of normal color. It weighed 7 lbs. 5 oz. The obstetrician noted that the baby did not move his left leg either spontaneously or on stimulation and that his right leg moved only very slightly with stimulation. There was no evidence of injury.

Examination. The baby was re-examined the next morning. The cry was normal and the feeding was normal. The upper half of the body appeared entirely normal. The configuration and color of the lower half of the body appeared normal. Tonus, however, was markedly reduced in the lower extremities. The anal sphincter was extremely patent and digital examination occasioned no discomfort. Urine dribbled with each cry. There was no movement in the left leg and the right leg moved but slightly at the hip and knee. There were no tendon reflexes in the lower extremities. The left cremasteric reflex was absent whereas the right was quite brisk. Pain response was reduced on the left from the perineum up to the lower abdominal quadrant and on the right up to approximately the inguinal region. There was no visible or palpable defect of the spine, no tuft of hair and no sinus. X-ray of the entire skeleton revealed no abnormality. A lumbar puncture at the 4th interspace recovered three drops of xanthochromic fluid. Unfortunately this was not deemed sufficient for examination by the laboratory.

Course. Weekly checks revealed no significant progression. After 7 weeks it was felt definitely established that no improvement was taking place. There remained a neurologic deficit with the upper level at approximately T11 on the left and L1 on the right.

The child was re-admitted for myelography at the Winnipeg General Hospital. Attempts at lumbar puncture were unsuccessful and hence the opaque media was introduced via the cistern. A complete block to the downward passage of the opaque media was demonstrated at T8 (Fig. 1).

1st Operation. At laminectomy, Feb. 9, 1954, a dark blue fleshy mass was exposed at T12. At this level it lay primarily on the left of the cord (Fig. 2) and appeared to be entirely extramedullary, thinning out in the subarachnoid space and completely enveloping the cord up to T8. This mass was removed downward to L2. At this time the child's condition worsened and the operation was discontinued.

Course. The microscopic appearance of the tumor was that of an undifferentiated glioma and therapy was instituted with the cobalt bomb. The child failed to improve and re-operation was therefore undertaken.

2nd Operation. On April 13, 1954 the laminectomy was continued, and the mass was followed down to the lumbosacral junction, at which point the tumor terminated.

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Fig. 1. Cisternal myelograms taken with patient vertically upright. The leading edge in both the A.P. and lateral views of the downward passage is arrested at T8. In the A.P. views the leading edge is seen to be widened and concave.

Fig. 2. (See explanation on facing page.)
Fig. 3. (Above) Irregular clusters of darkly staining anaplastic nuclei in cells with very scanty cytoplasm. The supporting structure is a very loose reticulum containing numerous irregular blood vessels with walls of uneven thickness. Hematoxylin and eosin, ×125. (Below) Another section containing a nerve rootlet, the sheath of which is invaded by tumor cells in the uppermost portion. The nerve root itself is invaded with tumor cells in the lower portion. Hematoxylin and eosin, ×125.

Fig. 2. (Above) Operative exposure. The main bulk of the tumor is seen above the cord as a raw surface. The part encircling the cord on top has been peeled off and the ragged margin on the other side appears in the picture just below the cord, to the right of where the dural suture is holding up the free edge of the dura mater. (Below) The main mass of the extramedullary tumor being removed from its position lateral to the cord (above cord in this picture).
Microscopical Diagnosis. The consensus of the pathology department at this time was that the tumor is a malignant glioma, possibly a neuroepithelioma (Fig. 3).

Subsequent Course. The child continues to thrive in every respect. Movement in the right leg has become quite vigorous and movement has appeared at both the hip and knee of the left leg. The sphincters have returned to apparent normalcy. Complete recovery is not anticipated.

DISCUSSION

Spinal cord tumors are quite rare in childhood and particularly in infancy.\(^1\)\(^-\)\(^16\) Broager's\(^7\) youngest patient in a series of 271 cases of cord tumor was 9 years old. Anderson\(^2\) reported a total of 21 cord tumors in children, excluding congenital malformations. His youngest patient was 5 months old, and had an extradural hemangioblastoma. Of 36 patients with cord tumor reported by Dandy,\(^7\) 5 were under 15 years of age. Ford\(^9\) found 9 cases among 70,000 pediatric admissions and the youngest patient was 9 years old. Of Stookey's\(^14\) 160 patients with cord tumor, 8 were under the age of 12. Elsberg's\(^8\) youngest patient was 3 years old. Buchanan's\(^6\) youngest patient was 3 months old. We have been unable to find any recorded case of a spinal cord tumor evident at birth other than teratomas, dermoids and those associated with developmental defects such as bifida, meningocoele or sinus.\(^15\)

REFERENCES

6. BUCHANAN, D. Personal communication.