Meningioma of the Neck
Case Report

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Extracranial and extravertebral meningiomas are rare. Most of those reported have been attached to the skull and have either involved the bone directly or been fixed to the periosteum.

A meningioma whose primary site is remote from bone is exceptional. This report gives an account of such a case and also includes a short review of previously reported cases for a brief discussion of ectopic meningiomas.

Case Report

A 15-year-old boy was admitted to the University of Iceland Hospital in Reykjavik in July, 1966. A tender spot had been noted on the left side of his neck ever since he was a few months old. The tenderness increased gradually with the years, and when wrestling with other boys the patient found that he could easily be immobilized with pain by pressure against this particular spot. When he was 11 he first noted numbness in the left shoulder, which gradually progressed. When he was 15, a lump was finally felt corresponding to the tender area in the neck.

Examination. The tumor could be felt behind the midportion of the left sternomastoid muscle. There was extreme tenderness over the area, and the neurological examination revealed a decreased sensibility to pain and touch in the distribution of the 3rd and 4th cervical nerves on the left, but no muscular weakness or atrophy. The remainder of the examination was normal. The clinical diagnosis entertained was neurilemoma.

All laboratory tests were normal. An x-ray film of the skull was normal, but films of the neck showed a calcified mass opposite the 4th and 5th cervical vertebrae on the left side; there was no evidence of bony erosion (Fig. 1).

Operation. The tumor was found deep behind the sternomastoid muscle. It was firmly attached to the accessory nerve from which it could be separated by sharp dissection without sacrificing the nerve itself. A thin fibrous string was found connecting the tumor to the vertebral column; after this had been severed the tumor could easily be removed.

Pathological Examination. The specimen was an encapsulated mass, measuring 2.5 × 1.5 × 0.5 cm. The external surface was grossly lobulated, and the cut surface was gray-white and rubbery and finely speckled with tiny calcified bodies, requiring decalcification of the specimen before sectioning on the microtome. The microscopic examination revealed, surprisingly, a structure quite typical for a benign meningioma of the psammomaticous type. The central portion was mostly composed of calcified psammoma bodies, while the periphery contained alternating whorls of meningial cells and dense hyalinized connective tissue (Fig. 2 left). Many whorls contained either small blood vessels or some stage of a developing psammoma body (Fig. 2 right).

Postoperative Course. The boy made an uneventful recovery. Physical examination almost 3 years later showed that his only symptoms were the sensory deficits still persisting on the left shoulder.

Discussion

Meningiomas are thought to arise from cell clusters at the tips of the arachnoidal villi, the so-called "cap cells" or meningo-ecyties which are of neuroectodermal origin. This accounts for the rarity of such tumors outside the cranial cavity and spinal canal. However, clusters of arachnoidal cells have been found at the exits of the cranial and spinal nerves from the skull and vertebras, at their points of penetration of the dura mater and also in the sheaths of the cranial nerves both inside and outside the cranial
The presence of such cells has also been suggested in the cranial periosteum. Heterotopic brain and meningeal tissue are known to occur occasionally in the midline of the head, neck, and trunk, due to a displacement of such tissue during the fusion of the embryonic skull and spine. All these ectopic locations of arachnoidal cells could serve as origins of meningiomas.

Our survey of the literature revealed 40 cases of meningiomas arising outside the cranial and spinal meninges, and no doubt there are others that our search failed to disclose. The largest group, 17 cases, had occurred within the orbit, the origin probably being arachnoidal cells in the sheath of the optic nerve. The second largest group, eight cases, involved the paranasal sinuses;