Case Report 63

Ramiro Hernandez, M.D., Kathleen P. Heidelberger, M.D. and Andrew K. Poznanski, M.D.*
Division of Pediatric Radiology and Department of Pathology, The University of Michigan Medical Center, Ann Arbor, Michigan, USA

Fig. 1. A An anteroposterior view of the lower two-thirds of the cervical spine shows a soft tissue mass on the left side in the base of the neck and in the upper portion of the superior mediastinum of the thorax. Enlargement of the neural foramina of C-5-C-6 and C-6-C-7 is present. The mass is not radiologically mineralized (an opaque density in the area of the mass is an artefact). B A left oblique view of the cervical spine shows more clearly the enlargement of the C-5-C-6 and C-6-C-7 intervertebral foramina.

Fig. 2. An anteroposterior film obtained during a cervical myelogram shows a 12 x 7 mm defect centered at the C-5-C-6 intervertebral foramen on the left. The mass has the appearance of an extradural lesion. A similar but smaller defect is noted at the C-6-C-7 level.

History

An eight-month-old white male infant with an uneventful past history presented with weakness of the left upper extremity. The remainder of the physical examination was normal initially, but subsequent examination disclosed a firm, irregular nodular mass in the left side of the neck, attached to the deep structures. Progression of the weakness of the left arm, particularly distally, was observed in the following two months, with the development of a left Horner syndrome and an absent left biceps reflex. The electromyogram was compatible with a diffuse brachial plexus abnormality. Roentgenograms of the cervical spine were obtained (Figs. 1A and B) and a myelogram was performed (Fig. 2).

On surgical exploration a tumor was noted to involve the brachial plexus and subclavian artery. A biopsy was done. The infant expired one month after the surgical exploration. An autopsy was not performed.

* Submitted for publication in October 1977

Address reprint requests to: R. Hernandez, M.D., Division of Pediatric Radiology, The University of Michigan Medical Center, Ann Arbor, MI 48104, USA

0364-2348/78/0003-0061 $01.00
© 1978 International Skeletal Society
Histological Sections

![Photomicrographs](image)

**Fig. 3.** A photomicrograph (H and E stain, low power) demonstrates undifferentiated areas of tumor. No great variation in pattern is present. B In this photomicrograph (H and E stain, high power) masses of cells with great variability of nuclear size are observed. Many cells have clear cytoplasm. C In this photomicrograph cells are present with darkly-stained nuclei which show considerable variation. They are present against a background which has a glassy appearance. Some of the cells have double nuclei.

**Diagnosis: Extraskeletal (Soft Tissue) Mesenchymal Chondrosarcoma of the Neck**

The differential diagnosis must include a large neurogenic tumor e.g. ganglioneuroma, neurofibroma, sarcomatous transformation of a nerve tumor, neuroblastoma, teratoma, rhabdomyosarcoma and other rare mesenchymal neoplasms.

**Discussion**

Mesenchymal chondrosarcoma, a rare malignant neoplasm which can be either skeletal or extraskeletal in origin, was originally described by Lichtenstein and Bernstein. In 1973, Guccion et al. collected 65 cases from the literature, of which 44 occurred in bone and 21 in extraskeletal tissues. The authors added 10 more cases, all of extraskeletal origin.

Clinically, extraskeletal mesenchymal chondrosarcoma occurs slightly more often in females than in males. More than half the patients are in the second and third decades of life. The soft tissue mesenchymal chondrosarcoma shows a predilection for the head and neck, although the tumor has been reported in the thigh, leg and thumb. These soft tissue neoplasms are infrequent in the trunk, but have been observed occasionally in the paraspinal muscles and in the chest wall.

The skeletal lesions are most commonly observed in the ribs, facial bones, calvaria and spine. They are relatively uncommon in the appendicular skeleton.

A painful soft tissue mass is often the presenting