Simultaneous Excision of Bilateral Neurogenic Tumors of the Mediastinum*

Raymond G. Armstrong, Lt Col, USAF (MC), FCCP, Evan F. Lindberg, Col, USAF (MC), George Traxler, Maj, USAF (MC), William Stanford, Col, USAF (MC), and Byron N. Dooley, M.D.*

Bilateral adjacent neurogenic tumors of the mediastinum were excised in a 20-year-old man through a single left thoracotomy. The presence of bilateral lesions was indicated by the discrepancy between excised tumor and the mass on x-ray examination. Two distinct histologic patterns resulted in one mass representing a ganglieneuroma, and the second, a neurofibroma.

In most reported series of mediastinal masses the incidence of neurogenic tumor is between 25 and 30 percent and represents the most common mediastinal tumor. In spite of the bilateral nature of neural tissue from which these tumors could arise, cases of multiple neurogenic tumors occurring bilaterally and simultaneously have rarely been reported. In contrast, the large tumor extending across the midline from one thoracic cavity to the other has been frequently described.

The case to be reported illustrates one possible approach to this unique situation.

CASE REPORT

An asymptomatic 20-year-old man was referred to Wilford Hall USAF Medical Center in February, 1969 because of a mediastinal radiodensity found on a routine chest film. The physical examination was negative except for multiple cafe

*From the Thoracic Surgery Service, Department of Surgery, Wilford Hall USAF Medical Center (AFSC), Lackland AFB, Texas.

Reprint requests: Lt Col Armstrong, Wilford Hall USAF Medical Center (SGHST), Lackland AFB, Tex 78236.

CHEST, VOL. 62, NO. 3, SEPTEMBER, 1972
EXCISION OF BILATERAL NEUROGENIC TUMORS OF MEDIASTINUM

The void mass from the right paraspinal area measured 10 × 4 × 2.5 cm. The surface was smooth, glistening and whitish-tan in color. Serial sections of the mass showed a homogeneous consistency except for small cyst-like spaces at one pole, containing clear mucoid material. Microscopic examination demonstrated a loose stroma of spindle-shaped Schwann cells and nerve fibers. Mature ganglion cells were diffusely scattered throughout the stroma. Occasional small capillaries were found within the stroma and satellite cells were present. Diagnosis: well differentiated ganglionoma.

The cylindrical mass from the left paraspinal area measured 8 × 2 × 1.5 cm. The external surface was smooth and glistening and varied in color from whitish-tan to bluish-purple. On cut section, numerous cyst-like spaces containing reddish-brown fluid were found. Microscopically a stroma similar to the previous tumor was found except for the presence of larger and more numerous capillaries. The ganglion cells were mature and occasional satellite cells were seen. The ganglion cells occurred in clusters throughout the stroma and were found in varying degrees of viability. Diagnosis: neurofibroma invading a left paraspinal ganglion. The circumscribed peritumoral mass proved to be a well-differentiated neurofibroma.

DISCUSSION

Multiple neurogenic tumors and numerous café-au-lait spots suggest von Recklinghausen’s disease as the underlying process in this patient although all other external stigmata of this condition were lacking. The inferior mediastinal location of the patient's mass suggested a differential consideration of esophageal hiatus hernia and aortic aneurysm which were ruled out by appropriate x-ray studies. Other differential diagnoses include enterogenous cyst and paravertebral abscess which also were felt not to exist.

Uniquely, the patient fortunately had adjacent, inferior bilateral mediastinal neurogenic tumors easily accessible through a single thoracotomy. The discrepancy in size between the left-sided tumor and the bulk of the mass noted on the chest film provided the necessary incentive for extending the exploration into the right chest.

While a single large neurogenic tumor may be centrally located and thus removed through a single thoracotomy it is more common for multicentric mediastinal neurogenic tumors to lie remote from one another requiring bilateral thoracotomies.

Failure to carefully compare the size of the tumor first noted with its size shown on the chest film may necessitate a subsequent contralateral thoracotomy as has been repeated in at least one instance.

REFERENCES