Thorax 1982;37:222-223

Short reports

Haemangiosarcoma of the chest wall

R VAUGHAN, H MOUSSALLI, K V LODGE

From Wythenshawe Hospital, Manchester

Haemangiosarcoma is a rare tumour of the chest wall and pleura, and few cases have been reported in the literature with any successful outcome. This paper reports a case with a successful outcome after operation.

Clinical findings

A 15-year-old boy developed a sudden onset of pain in the right chest while playing rugby. There was no history of direct injury or fall, or of previous chest disease. He had never worked with PVC or vinyl chloride.[1]

The chest wall appeared and felt normal. Percussion revealed dullness over the right chest in the mid-axillary line from the fifth to eighth ribs. Breath sounds were normal. There was no lymphadenopathy.

Chest radiographs (fig 1) showed a peripheral lobulated shadow in the right mid-zone, related to the apical segment of the right lower lobe.

Exploratory thoracotomy was carried out through a posterolateral incision revealing a tumour covering the third, fourth, and fifth ribs. The tumour was vascular in nature and contained clot-like material. Three specimens were sent for frozen section which were reported as fibrous tissue with chronic inflammatory cells but no neoplasia. The whole mass however appeared neoplastic and was therefore excised together with the third, fourth, and fifth ribs and their intercostal muscles over a wide area.

Pathology

The specimen consisted of 10 cm lengths of three ribs with attached connective tissue, muscle and pleura. There was a circumscribed mass on one surface covered by a smooth membrane and extending to the periosteal surface of the ribs but not invading the bone. The mass which measured 6 × 4 × 3 cm was composed of firm white tissue in which there were a number of spaces containing blood clot, some of which appeared to be organised.

Sections of the mass showed sheets and clumps of small round and elongated cells with hyperchromatic nuclei and scanty cytoplasm traversed by large dilated blood channels (fig 2). In parts there were numerous small thin-walled vascular spaces lined by tumour cells (fig 3), some of which projected into the lumen of the vascular spaces. Mitoses were very numerous. The neoplasm was surrounded by dense fibrous tissue similar to the tissue submitted for frozen section. There were large blood vessels, some containing organised thrombus, at the periphery of the tumour. The neoplasm extended in the connective tissue, invaded intercostal muscle and surrounded the intercostal nerves but there was no extension into the bone. Where it extended to the pleura, the pleura showed thickening by fibrosis and infiltration by

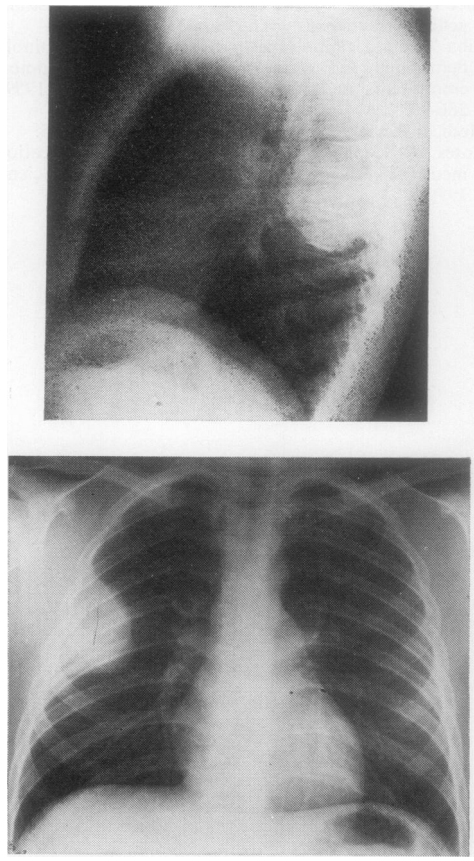

Fig 1a and b *P—A and lateral chest radiographs.*

Address for reprint requests: Mr H Moussalli, Wythenshawe Hospital, Southmoor Road, Manchester M23 9LT.

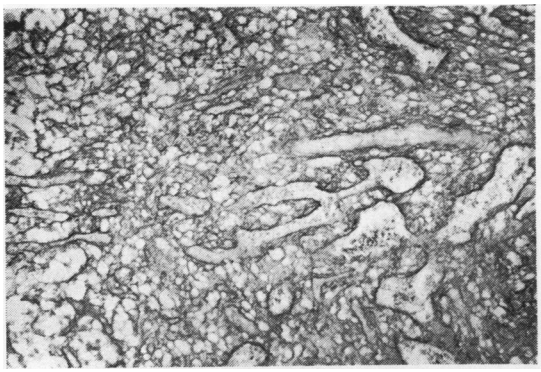

Fig 2 *Numerous thin-walled channels of varying size traverse the tumour (Sweet's reticulin, × 100).*

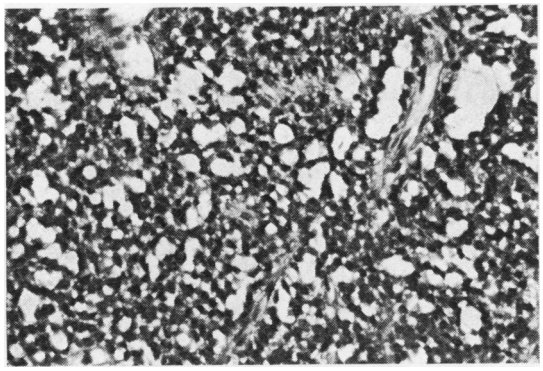

Fig 3 *The tumour is composed of sheets of small cells many of which line proliferating vascular channels. (H and E, × 160.)*

chronic inflammatory cells but there was no tumour invasion of the pleura.

Follow-up over the last two years has not revealed any evidence of recurrence, and no further treatment, such as radiotherapy or chemotherapy, has been given.

Discussion

Haemangiosarcoma is a rare vascular tumour. It was originally described by Mallory in 1908[2] and has a wide distribution in the body. It occurs even more rarely as a tumour of the chest wall, pleural cavity or lung, although it often metastasises to the lung.

All patients with haemangiosarcoma of the chest wall previously reported have succumbed rapidly.[3] In this case, although the histological appearance suggests a highly malignant and rapidly growing neoplasm, it was still confined within a zone of fibrous tissue at the time of operation. This capsular tissue, which was submitted for frozen section, prevented the diagnosis from being made at operation. The prognosis in this case depends upon the extent of haematogenous or lymphatic spread before removal of the neoplasm.

Most authors advocate localised wide excision followed by deep X-ray therapy, but this has so far failed to prevent recurrence and distant metastases.[4]

This young person has been fortunate, therefore, to have survived so long without any further treatment other than operation and may be the longest known survivor after haemangiosarcoma of the chest wall.

References

[1] Vinyl chloride and cancer. *Br Med J* 1974;**1**:590-1.
[2] Mallory FB. The results of the application of special histological methods to the study of tumours. *Exp Med* 1908;**10**:575-93.
[3] Stout AP. Haemangioendothelioma. *Ann Surg* 1943;**118**: 445-63.
[4] Tandon RK, Stivastava VK, Pandey RP. Haemangio-endotheliosarcoma of chest wall and pleural cavity. *Ind J Canc* 1971;**8**:205-7.