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A Case Report on Rare Presentation of Thymoma with Extensive Necrosis

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Abstract
In adults thymoma are the most common primary tumor in the anterior mediastinum but thymoma with extensive necrosis is extremely rare. This presentation of thymoma is challenging for both pathologists and radiologists. Massive areas of necrosis makes it difficult to report and categorize without the immunohistochemical staining. We present a case of a 42 year old female from himachal Pradesh, India presenting with chest pain and pain radiating to right arm which was diagnosed as a thymoma with extensive necrosis.

Keywords: *Thymoma, extensive necrosis, anterior mediastinal mass.*

Introduction

In adults thymomas are considered to be the most common primary tumor of anterior mediastinum[1-2]. Although thymomas are not rare but areas of necrosis, infarction, haemorrhage and cystic degeneration are found only focally 3.This presentation of thymoma with areas of extensive necrosis make it rare. WHO has classified thymomas in 1999 and modified the classification in 2004[1,4-6]. Thymoma needs to be differentiated from other lesions such as thymic carcinoma, mucoepidermoid carcinoma and germ cell tumors like seminoma or yolk sac tumor[3,7,8]. After extensive research it was found that not more than 30 cases have been reported in literature[3,7,8]. Hereby we report a case of a 42 year old female from himachal Pradesh, India presenting with chest pain and diagnosed as thymoma type B2 with extensive necrosis.

Case History

A 42 year old female resident of himachal Pradesh, present with complaints of chest pain, pain radiating to right arm and fatigue in general medicine OPD.

On Examination- Pallor was present. However she had no other finding.

Investigations- Chest X-ray was preformed and revealed mediastinal enlargement. CT scan chest was done and revealed an anterior mediastinal mass measuring 8x5 cm with homogenous hypodense areas.

Biopsy- From the anterior mediastinal mass was performed and no diagnosis was made because only extensive areas of necrosis was seen.

A provisional diagnosis of thymic hyperplasia myasthenia gravis was made by the treating clinician and a resection of anterior mediastinal mass was done.

Gross Examination- Revealed a grey brown fibro fatty soft tissue mass measuring 8x5x3 cm. cut

section of the mass revealed a well encapsulated thymus gland measuring 4x3x1.5 cm with predominant yellowish necrotic areas measuring approximately 2.5x2 cm. all of the tissue was processed.

Microscopic Examination- Showed an encapsulated lesion with a thick calcified capsule ending in broad fibrous septae dividing the tumor into multiple angulated lobules comprising of even proportion of admixture of mature lymphocytes and epithelial cells. Extensive areas of necrosis were seen along with frequent perivascular serum lakes. Focal area showed capsular invasion. So a final diagnosis of thymoma type B2 with extensive necrosis was given.

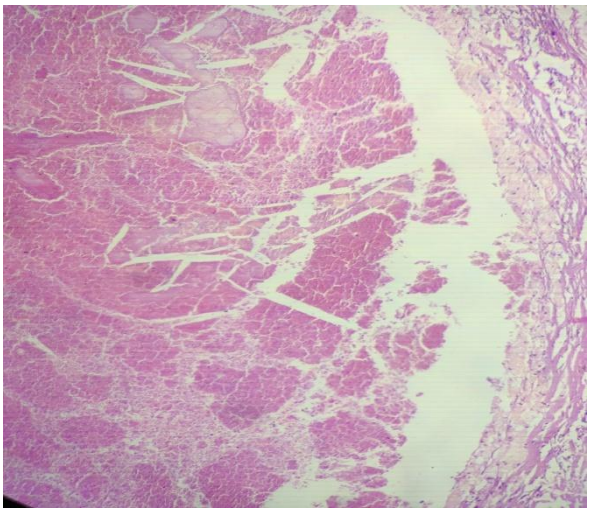

Fig 1: Thickened capsule with underlying area of extensive necrosis

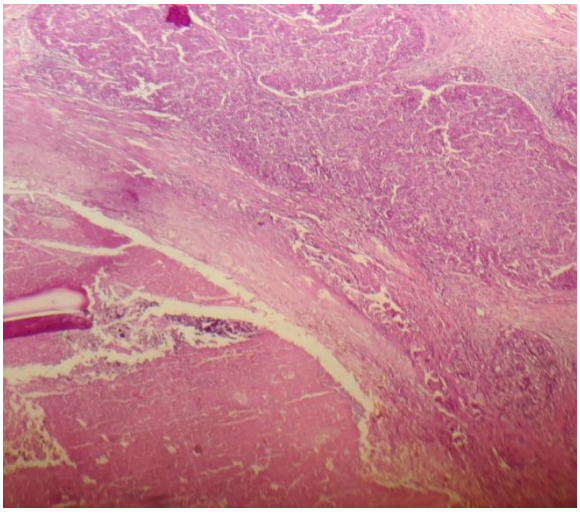

Fig 1: Tumor cells with areas of extensive necrosis

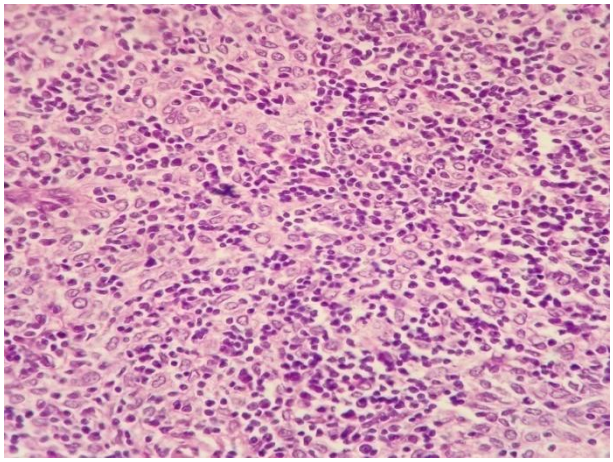

Fig 3: Epithelial cells admixed with mature lymphocytes

Discussion

Thymomas arise from the epithelial cells of the thymus and occur most commonly in fourth to fifth decade of life, with no sex predilection[1]. Clinically patient may be asymptomatic or present with features of paraneoplastic syndromes, or due to compression of adjacent structures such as cough, dyspnoea, dysphagia or chest pain(as in our case) or in some cases may present with generalized symptoms such as fever, weight loss or fatigue which was also present in our patient [1,9,10].

According to histological criteria WHO has classified thymomas as type A (spindle cell/ medullary), type AB (mixed), type B1 (lymphocyte rich), type B2 (cortical), type B3 (epithelial) and type C (thymic carcinoma)[11,12]. Thymomas are considered to have low malignant potential 11.Overall 10 year survival for patient of thymoma type B2 is considered to be 81%.

Grossly thymomas may be small (4-5 cm) or large with dimensions up to 20 cm or more, are usually encapsulated with a thick fibrous capsule and may sometimes be focally invasive as was in our case. Focally they can have solid, cystic, areas of calcification, haemorrhage or necrosis[13]. However massive areas of necrosis or haemorrhage are rare. Differential diagnosis with thymic carcinoma or lymophoma is difficult especially in large mediastinal mass and with areas of massive hemorrhage or necrosis. Surgical biopsies in such

cases can render help, however in our case the biopsy was inconclusive as only extensive necrosis was seen. Very few cases of thymoma with extensive necrosis has been described so far [3,7,8], however a few cases with predominant cystic or haemorhagic areas has been described.

Conclusion

Thymomas with extensive hemorrhage, necrosis, infarction or cystic changes were rarely reported and it imposes a challenge to the pathologist to report thymoma with extensive necrosis based on histomorphology alone. However immunohistochemistry plays an important role along with gross and microscopic findings.

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