

THECOMA IN A 12-YEAR-OLD GIRL

by

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Introduction

Ovarian tumours comprise not more than 1% of all new growths in girls under 16 years of age (Huffman, 1968); the teratomas and non-neoplastic cystic growths constitute biggest proportion of them (Huffman, 1968; Norris and Jensen, 1972). Upto-1965 only 3 cases of granulosa-theca cell tumours and 6 cases of theca cell tumours (fibrothecomas) in girls of pre-menarchial age were on record (Huffman, 1968). Later Norris and Jensen (1972) have reported 5 more cases of fibrothecoma in girls under 14 years of age from the files of Armed Forces Institute of Pathology, U.S.A. We could not find any other report of the tumour in this age group in an uptodate survey of English literature.

CASE REPORT

H., a female child, 12 years of age was admitted to the paediatric surgical unit of S. Medical College and Associated Group of Hospitals, Jodhpur on 19-1-1977, with the complaints of severe pain around umbilicus for 36 hours and vomiting for 2 days prior to admission. The patient had noticed a lump in the abdomen about 2 months before these complaints. Pre-operative clinical diagnosis was

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acute appendicitis. An emergency operation was performed, which revealed it to be a case of twisted ovarian tumour.

Gross Appearance of the Tumour—It was a roughly rounded mass of 14 x 11 x 10 cms. in size. External surface was greyish-white, and smooth. The tumour was well encapsulated and had a soft consistency. Its cut surface was variegated, marked by yellowish light brown solid areas, and several blood filled cystic spaces of different size. The fibrous trabeculae of variable thickness were traversing the substance of the tumour dividing it into nodular areas.

Microscopic Picture: 25 sections from different areas of tumour were examined. The tumour mainly consisted of three types of cells, polyhedral, plump and spindle, the former two outnumbered. They resembled certain cells of normal ovary. The polyhedral cells closely resembled theca interna cells, they had a wide lightly stained cytoplasm with a large round centrally placed, lightly stained nucleus having a prominent nucleolus. The plump cells resembled theca externa and stromal cells, whereas the spindle cells resembled stromal cells, fibroblasts and fibrocytes. Certain areas exclusively consisted of polyhedral cells. While at most of the places all three types of the cells were present in different proportions in different areas. These cells were either closely interwoven with minimal or no collagen fibers in between them or they were forming interlacing bundles. The collagen fibers were more marked in association with spindle cells, at few places they were present as bundles. There were also cells, morphologically intermediate between the polyhedral and plump cells and the plump and spindle cells (Figs. 1 & 2). Focal areas of luteinization were also present in a few sections. The stroma of the tumour consisted of fibrous trabeculae and thin

walled slit-like open vessels, mostly devoid of blood or they had scanty blood. Other sections of the tumour showed extensive degenerative and necrotic changes, the vessels were congested, blood was extravagated leading to the formation of blood pools, the tumour cells were degenerated and necrosed, abundant fluid was present separating individual cells. These unhealthy areas were mostly infiltrated with polymorphonuclear cells, whereas in other sections infiltration of plasma cells and lymphocytes was more marked. The special stainings, e.g., von Gieson, reticulin and Sudan IV (frozen sections) were also carried out. Most of the cells, particularly wide cytoplasm cells were rich in lipids. The reticular fibers were abundant, surrounding individual healthy cells of all types.

Discussion

As a rule thecomas are firm solid tumours but in the present case torsion was responsible for acute alterations in the circulatory dynamics leading to acute degenerative changes and the softening of the tumour, which was superimposed on the degenerative changes which were already in progress as indicated by infiltration of lymphocytes and plasma cells in certain degenerated areas.

The multiple sections from the present case showed all histologic characters of thecoma, i.e., polyhedral cells, spindle cells, focal areas of luteinization and cytoplasmic fat droplets, particularly in the wide cytoplasm cells and abundant reticulin around individual cells (Norris and Jensen, 1972; Ashley, 1978; Novak and Woodruff, 1979). The presence of granulosa cells in thecoma should always be

sought, as they are potentially malignant and a pure thecoma is almost always benign (Norris and Jensen, 1972).

Many case reports suggest that almost all thecomas produce precocious development (Huffman, 1968; Breen and Maxson, 1977), but occasionally such tumours may not have an obvious hormonal influence upon the individual. Only an incomplete history of the present case was available, so it is impossible to comment affirmatively on its functional status, but the presence of cells with abundant cytoplasm and pale nuclei indicated that the cells of the present case were functionally active (Novak and Woodruff, 1979), thus it was likely to be an hormonally active tumour.

Summary

A case of thecoma in a pre-menarchial girl is reported because of the rarity and clinical diagnostic difficulties of the tumour in childhood.

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See Figs. on Art Paper IV