RHABDOMYOSARCOMA OF OVARY

by

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and

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Rhabdomyosarcoma of the ovary is one of the rarest of the neoplasms met with in the study of gynaecological pathology. Only six accepted cases have been reported so far as according to Sandison (1955). Virchow's was the first report made in 1850. Later Vignardi, 1889, Himwich, 1920, Leepold, 1928 and Barris and Shaw in 1928-29 reported their cases. Sandison reported a case of rhabdomyosarcoma of ovary in 1955. Hertig and Gore (1961) have also reported the same cases as reported by Sandison (1955) with no addition of any of their cases and accepting the rarity of this tumour. It is a malignant tumour composed (predominently) of striated muscle elements. The age range varies from 2 to 60 years. Generally tumours are large, 15 to 20 cm. in diameter, and may be solid or cystic (Hertig and Gore, 1961). The following is a rare case report of rhabdomyosarcoma of the ovary received from the gynaecological unit of K. G. Hospital, Visakhapatnam, for record.

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Received for publication on 30-9-66.

Case History

K. A., 35 years, was admitted on 18-8-1965 with a complaint of distension of abdomen and amenorrhoea for three months. The present complaint started three months ago, when the patient noticed a small swelling on the right side of the abdomen gradually increasing in size, till the whole of the abdomen was filled up. She noticed marked loss in weight after the onset of these symptoms and was feeling dyspnoeic for two months. Scanty micturition was present.

Condition on admission: The individual was thin, emaciated, anaemic with marked distention of abdomen and dilated veins present over the abdomen. There were cystic and solid areas in the right iliac fossa with restricted mobility.

Vaginal examination: external genitalia were healthy. The introitus admitted two fingers. The cervix was smooth, directed forwards and normal. The body of the uterus was retroverted and normal in size, it felt separate from the tumour. Posterior fornix was ballooned out. Speculum: cervix and vagina were healthy. Rectal examination: A cystic mass bulging out into the rectum. A diagnosis of malignant ovarian tumour was made.

Investigations: Hb.—45%. Urine culture sterile, no albumin, no sugar. Stool—nil abnormal. Blood urea — 23 mgm%. Urine urea — 83.2 mgm%. Standard urea clearance — 36 cc. of blood per minute. X-ray chest — no secondary deposits. Diaphragm, displaced upwards by a soft tissue shadow in the abdomen. Plain X-ray abdomen — shows soft tissue shadow. I.V.P. — Normal function of the kidneys.

Operation notes: On 28-8-1965, under local anaesthesia supplemented with gas and O_2, the abdomen was opened by a sub-

umbilical midline incision, later extended by 5″ above the umbilicus as the tumour was very big. A tumour arising from the right ovary, adherent to the parietal peritoneum, came into view. It was first tapped to reduce the size; blood-stained mucoid fluid drained out. The tumour was found to be multilobulated, solid in areas, cystic in other areas. The tumour was adherent to the peritoneum, pelvic structures, liver, omentum, and bowel. With great difficulty it was isolated from surrounding structures, and while so doing the capsule burst and thick mucoid material escaped. The opposite ovary was just visualised. The tube was stretched over at one side and the tumour was adherent to the uterus and bladder below. Ovariotomy with salpingectomy only was done as uterus and other adnexae could not be removed being firmly adherent. The whole mass was separated carefully from other structures and it weighed 33 lbs. One bottle of 'A' group blood was given. Patient's condition was fair at the end of the operation. The patient had a stormy post-operative period and developed a faecal fistula, and after three weeks left the hospital against medical advice.

Gross pathology: A large irregularly lobulated solid tumour poorly encapsulated, weighing 33 lbs., 30 cm. x 20 cm. in size, with veins coursing over the surface. Cut section greyish white in colour with central cystic and mucoid degeneration and gelatinous feel; haemorrhagic necrosis in other areas was noted (Fig. 1).

Histopathology: Number of blocks of material were examined in paraffin section and the tumour was seen to consist of pleomorphic cellular appearances with areas of mucinous degeneration. There were three types of cellular features seen. (1) Spindle cell sarcomatous areas with myxomatous degeneration (Fig. 2). (2) frequently there was differentiation into numerous long strap-like cells with eosinophilic cytoplasm with one to many nuclei. Some were strap shaped, raquet shaped, tadpole like cells. In these nuclei were large, single or many in tandem or in short rows, ovoid, vacuolated or densely stained. Occasionally even in H & E. sections both longitudinal and transverse striations were readily seen under higher magnification. (Fig. 3). P.T.A.H. stain — The transverse striations brought about prominently by PTAH stain and were fairly close or widely spaced, longitudinally frayed out fibres were not infrequent (Fig. 4). These cells were rhabdomyoblasts. There were also seen stellate cells with undifferentiated myxomatous cells. Number of sections studied from different sites of the tumour did not reveal confirming evidences of teratomatous structures or origin. A pathological diagnosis of Rhabdomyosarcoma was made.

Comment

Rhabdomyomatous tumours are more frequent in sites where little or no striated muscle is normally present. Willis (1960) concludes that the usual source of rhabdomyomatous tumours is not adult muscular tissue but embryonic tissue, like undifferentiated mesenchymal cells with the potency of aberrant differentiation into muscle fibres. These were synonymously called by Ober *et al* (1959) as mixed mesenchymal mullerian sarcoma or mixed mesodermal tumour. A tumour composed of two or more mesodermal elements, heterologous to the tissue of origin such as striated muscle cartilage, myxomatous tissue, fat or bone, qualifies it as a "Mixed Mesodermal Tumour". The pure heterologous sarcomas as rhabdomyosarcomas represent a quantitative distinction of having specialised along one particular route derived from undifferentiated mesenchymal cells. The heterologous mixed mesenchymal sarcomas contain a greater proportion of undifferentiated mesenchymal elements with heterologous elements like striated muscle, cartilage, bone or fat. Sandison (1955) found "primitive mesenchymal cells and em-

bryonal cartilage in his case.

Summary

1. Rhabdomyosarcoma of the ovary is an extremely rare tumour probably not more than few cases have been recorded;

2. A further case is now being reported of a woman aged 35 years with a rhabdomyosarcoma of the right ovary and extensive infiltration of various organs;

3. Review of literature, with pathology of the tumour in detail is described.

Acknowledgements

We offer our thanks to the Principal, Andhra Medical College, and the Superintendent, King George Hospital, Visakhapatnam, for giving us permission to record this case. With pleasure we acknowledge the help rendered by Mr. K. Ch. Appalaswamy, Photo-artist and Mr. V. Satyanarayana, Steno-typist of Pathology Department.

References

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Figs. on Art Paper II & III