ADENOMATOID TUMOUR OF THE OVARY REPORT OF A CASE AND SOME OBSERVATIONS ON THE NATURE OF ITS HISTOGENESIS

by

S. K. SARKAR,* M.B., D.C.P., Ph.D., M.R.C.Path.

and

P. SEN GUPTA,** M.B.B.S., D.Phil. (Cal.)

Since "adenomatoid tumour" was described by Golden and Ash (1945), reports of identical cases in male and female genital tracts accumulated rapidly in recent years (Fajers, 1949; Lee *et al*, 1950; Horn and Lewis, 1951; Teilium, 1954; Rankin, 1956; Bolton and Hunter, 1958; Jackson, 1958; Teel, 1958; Flickenger *et al*, 1960; Brown, 1964; Kurohara *et al*, 1967). However, adenomatoid tumours arising from ovary are extremely rare and in 1950 Lee *et al* and in 1958 Jackson described only one case each and in 1958 Teel could cite only five such cases from the literature. From India in 1963, Chitkara and Chugh reported one case of testicular adenomatoid tumour and later reports by Reddy *et al* (1966), Bhargava (1970), Moghe *et al* (1970) and Pratap and Agarwal (1971) added a few more cases from their own series.

The rarity of the ovarian adenomatoid tumour has prompted the presentation of clinical and morphological features of a case of one such ovarian tumour. A few observations regarding its histogenesis are made.

*Professor-Director.

**Lecturer.

Department of Pathology & Bacteriology, Nilratan Sarkar Medical College, Calcutta-14.

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CASE REPORT

J.B., a 65 years old female Hindu patient was admitted in the hospital with a huge abdominal swelling of 10 years' duration. The rate of growth was slow and on examination the mass was clinically diagnosed to be an ovarian cyst.

Ovarian cyst was operated on 23-8-1971. On gross examination the cyst, oval in shape, was found to be adherent to the adjacent structures and measured about 25 cm × 30 cm. Content of the cyst was mucinous and clear.

Microscopic features

The tissue from the ovarian cyst wall was fixed in 10 per cent formalin and embedded in paraffin. Sections were stained with haematoxylin and eosin, Periodic-Acid Schiff with or without diastase digestion, Mallory's Trichrome and Mallory's phosphotungstic acid haematoxylin.

Many irregular spaces were seen lined by cuboidal cells having ovoid nuclei with sprinkling of chromatin granules and by endothelium like flattened cells. The cuboidal cells often projecting into the irregular spaces showed occasional vacuolization (Fig. 1). P. A. Schiff technique with or without diastase predigestion failed to show any basement membrane of the lining cells which often lacked cell wall and appeared as syncytial mass.

Area bearing the features of adenomatoid tumour was also located in the ovarian medulla containing a fair number of hilus cells often intermingled with the acini (Fig. 2). Besides occasional projection on the surface, invaginations lined by low

cuboidal epithelium which simulated lining cells of serous cystadenoma were also present at one corner (Fig. 3).

Discussion

Adenomatoid tumours are uncommon benign tumours which occur at any age and are four times more common in males (Fajers, *loc. cit;* Jackson, *loc. cit*). The present case in a female subject was encountered at one extreme of age. The association of the tumour to the wall of a huge ovarian cyst needs special mention, as their origin in ovary is very rarely recorded.

Histogenesis of adenomatoid tumour is still an enigma as will be evident from a survey of the literature. Though a tumour of the characteristic histology was detected about seven decades age and designated as "lymphangioma" by Hochne in 1901, the exact nature is still unknown and many hypothesis have been put forward from time to time to explain their histogenesis. These tumours have been broadly considered to be endothelial, mesothelial, Wolffian or Mullerian in origin and each hypothesis has its adherents and opponents presenting their views with amost equal confidence fortified by various histological and histochemical evidences (Bolton and Hunter, 1958; Teel, 1958).

Adenomatoid tumours in the female occur on the posterior aspect of uterus, fallopian tubes, broad ligaments, paraovarian tissues, round ligaments, canal of Nuck and occasionally in the ovaries. Wolffian vestiges has been reported to be present in the hilum of the ovaries, broad ligaments, and paraovarian tissues. On the other hand, uterus and fallopian tubes are Mullerian in origin. Controversies exist about the mesonephric participation in the formation of round ligaments. Hence, it appears that the nature of the mesenchyme, mesonephric or paramesonephric, has to be considered in the history of genesis of adenomatoid tumours according to their localisation. Otherwise it has to be considered that particular mesenchymal remnants having potency of differentiation can occur at diverse sites hitherto undemonstrated. The present tumour showed areas bearing histological resemblance of serous cystoma and transition between serous cystadenomatous area and adenomatoid tubules could be detected at places. Serous cystoma is held to arise from the surface epithelium of the ovary. All the genital mucous membrane arise from the coelomic epithelium as also the gonads. The coelomic epithelium over the genital blastoma remain as germinal epithelium in female with its differentiating potency, largely unused and stored. Under abnormal condition, such as hormonal (Novak and Woodruff, 1967), it may differentiate along Mullerian pathway. It is also then possible that an Wolffian pathway of differentiation may occur. The same possibility of differentiation exists in respect to pelvic peritoneal surfaces, tunica vaginalis and its homologues. Hence, it may be presumed that this coelomic epithelium or its vestige located at diverse sites may show aberrant differentiation and give rise to adenomatoid tumours. The coelomic epithelium and its vestiges are probably genetically neutral and similar has been the observation of Golden and Ash (loc. cit.), who described adenomatoid tumour as "genetically neutral and morphologically correct". This concept may pave the way for dispensing with contradictory claims of Mullerian and Wolffian vestiges in the histogenesis of such tumours at various sites.

Summary

A case of adenomatoid tumour, arising

in a female genital tract is presented with pertinent gross and microscopical features. The histogenesis of this controversial tumour has been discussed. Their possible origin from coelomic epithelium of urogenital blastoma and its vestiges has been suggested.

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See Figs. on Art Paper V