OVARIAN ENDOMETRIOSIS WITH MIXED MESODERMAL TUMOUR AND CLEAR CELL CARCINOMA

(A Case Report)

by

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Introduction

Primary mixed mesodermal tumours of the ovary are extremely rare and less than 21 cases have so far been reported in literature. A search of the literature revealed a solitary case report of clear cell carcinoma with mixed mesodermal tumour originating in ovarian endometriosis (Copper, 1978).

CASE REPORT

A 51 years old Hindu woman reported with a six months history of frequency, urgency, nocturia and low back pain. She was 2 years post menopausal. Her past and family histories were unremarkable.

Physical examinations revealed a smooth, non-tender mass arising from the pelvis to the level of the umbilicus. Routine and ancillary investigations were non-contributory. The pre-operative diagnosis was right sided ovarian cyst.

Laparotomy confirmed the diagnosis and the cyst was removed intact together with the tubes, uterus and left ovary. The post-operative recovery of the patient was uneventful.

Examination of the removed specimens revealed a smooth cyst with dimensions of 10 x 8 x 6 cms. On section, the cyst was thin walled and contained chocolate coloured fluid. The lining was mostly smooth, but a number of papillary outgrowths were seen. No separate ovarian tissue was identified. Both fallopian tubes were distended. The left ovary measured 3.5 x 2 x 1.5 cms. The uterus was unremarkable.

Histological examination of the large ovarian cyst revealed an endometrial cyst lined by typical endometrial epithelium and stroma. In places, the stroma contained numerous haemosiderin laden macrophages (Fig. 1). The papillary processes which arose at interval from the cyst lining, all showed the features of a clear cell carcinoma (Fig. 2). The surface of the largest papillary nodule had a clear cell pattern, but the stroma beneath contained abundant striated muscles (Fig. 3). The left ovary contained an endometrial cyst but showed no evidence of tumour. Uterine endometrium was atrophic.

Discussion

The two distinct histological pictures, one epithelial and the other mesodermal, are seen in the present case, in a tumour arising in a focus of ovarian endometriosis. The histogenesis of each pattern has been a subject of debate for several years. Many clear cell tumours of the ovary have a very similar histological appearances to classical renal cell carcinoma and it has

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been suggested by Novak *et al* (1954) that clear cell carcinoma arise from mesonephric remnants within the ovary. However, the findings in the present case do not support such a theory, but, are in agreement with other workers (Scully and Barlow, 1967; Cooper, 1978), who have clearly shown origin from Mullerian derivatives and have demonstrated origin directly from the lining of an endometrial cyst.

Mixed mesodermal tumours of the ovary have been described in the literature under a variety of names, including rhabdomyosarcoma (Payan, 1965) and solid teratoma (Novak, 1954). It is now appreciated that these tumours are a distinct category with no diverse pattern of epithelial differentiation, but with a mesodermal capability to differentiate to form straiated muscle, cartilage or osteoid (Cooper, 1978). An identical tumour arises from endometrial stroma in the uterus, and where possible this site should be excluded as a source for the ovarian tumour. In the present case, the uterus was examined and no tumour was found.

It has been accepted by several authors that this tumour may arise from mullerian derivatives in the ovary and an association of the tumour with pelvic endometriosis has been described (Fathala, 1967; Decker *et al*, 1968; Fox and Langley, 1976). However, no case has clearly demonstrated origin of this tumour from the lining of an endometrial cyst. The present case clearly arises from such a source, and all Sampson's (1925) criteria are satisfied including benign endometrial tissue is present in the ovary, the tumour arise within an endometrial cyst and a uterine primary site has been excluded.

Although the tumour described in present case has been shown to arise from mullerian tissue derivative within the ovary, it is recognised that origin from endometrial cyst cannot be always demonstrated. In several series of cases of clear cell carcinoma and mixed mesodermal tumours, the authors have either failed to demonstrate endometriosis in the involved ovary, or elsewhere in the pelvis (Czernobilsky *et al*, 1970; Fenn and Abbel, 1971; Norris and Robinowitz, 1971; Kurman and Craig, 1972; Fine *et al*, 1973). They have postulated that most tumours arise de novo from the surface epithelium of the ovary. Embryologically, the mullerian epithelium and surface epithelium of the ovary are derived from the surface coelomic mesothelium. A wide variety of tumours including serous, mucinous and endometrioid are known to arise from pluripotential cells covering the ovarian surface and it is reasonable to suppose that clear cell carcinoma and the mixed mesodermal tumours could arise from this source.

The histological findings in present case give clear support for the mullerian (Paramesonephric) theory of origin for both components of the tumour, but from the evidence available at present time. We could agree with the opinions expressed by many authors that the majority of mixed mesodermal tumours and clear cell carcinomas of the ovary probably arise de novo from ovarian surface epithelium and a few arises in the foci of ovarian endometriosis.

Summary

A case of ovarian endometriosis with mixed mesodermal tumour and clear cell carcinoma is presented. The possible origin of such growth has been discussed.

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