

Case Report

Florid Adnexal Polypoid Endometriosis Associated with Very High Serum CA-125 Levels Mimicking Ovarian Malignancy

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ABSTRACT

We report a case of florid polypoid endometriosis presenting with advanced bulky disease in pelvis with serum CA-125 levels of 7844U/ml. The extent of tumor, CT scan findings, elevated serum CA-125 levels were suggestive of ovarian malignancy. Histopathology demonstrated endometrial glands and stroma. Glands were neither crowded nor complex and were separated by a fibromatous stroma that contained endometrial stromal cells. These features were consistent with diagnosis of polypoid endometriosis, a recently described entity with a clinical presentation completely different from conventional endometriosis. Our case emphasizes the association of high levels of CA-125 with benign gynaecologic conditions.

Key words: Endometriosis, Pelvis, Tumor, CA 125 Antigen

Introduction

CA-125 was identified by Bast *et al.* and was proposed as a specific marker of Ovarian Carcinoma in 1981(1). CA-125 is a high molecular weight antigenic determinant expressed on surface of coelomic epithelium, epithelium of endocervix, endometrium, fallopian

tube, pelvic peritoneum and placental tissues (1). Serum CA-125 levels may also be moderately elevated in patients with advanced endometrial and cervical adenocarcinoma and several benign conditions such as pelvic inflammatory disease, uterine fibroids and especially endometriosis (1-3). Serum CA-125 levels > 65 U/ml were associated

Received: 29/Desember/2012

Accepted : 05/May/2013

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with nonmalignant conditions (4-6) in 13% of patients and endometriosis was the most common benign condition. Several authors specifically investigated the presence of high values of tumor markers in patients with benign diseases, usually associated with only slightly increased levels of the marker (1). In a study, 79% of patients with endometriosis had CA-125 levels $> 35\text{U/ml}$ (4). Patients with endometriosis rarely have a CA-125 concentration $> 100\text{U/ml}$ (1).

Polypoid endometriosis, in contrast to conventional endometriosis, presents as masses that project from a serosal or mucosal surface or from lining of an endometriotic cyst (7). Generally large, these masses can simulate a malignant tumor on imaging and at surgery, especially when associated with high serum CA-125 levels (7-9).

We report a case of florid polypoid endometriosis presenting with advanced disease in pelvis and associated with serum CA-125 levels of 7844 U/ml . Our case further emphasizes that very high levels of CA-125 are not always associated with malignant disease and polypoid endometriosis should be considered in the differential diagnosis.

Case Report

A 25-year old married woman was referred to our centre with a huge pelvic mass for FNAC. She complained of lower abdominal pain, excessive bleeding during menstruation and irregular periods for the past 4 years. Hemoglobin levels were 8.0g/dl . Other hematologic parameters were within normal limits. Her serum CA-125 level was 7844U/ml . No other serum markers were studied. Previous Ultrasonography report showed a complex heterogeneous lesion in pelvis extending to Pouch of Douglas. Recent CT scan showed a large predominantly solid heterogeneously enhancing pelvic and Pouch of

Douglas mass lesion extending into abdomen (Fig. 1). In view of significantly elevated levels of CA-125 levels, a strong possibility of Ovarian Carcinoma was considered by radiologists. We deferred FNAC in view of CT findings and high serum CA-125 levels.

A week later laparotomy was performed and specimen was received at our centre for histopathological examination.



Fig. 1: CT Film of the pelvic mass.

Gross Examination

Received hysterectomy specimen measured $8.0 \times 5.0 \times 4.0\text{ cm}$ with right sided adnexa and a huge right adnexal polypoid mass measuring $25.0 \times 16.0 \times 10.0\text{ cm}$ with many attached small polypoid bits (Fig. 2). On cut section of the uterus, endometrium was thick. Myometrium was trabeculated. Cervix was unhealthy. Right ovary showed hemorrhagic foci. The mass was solid on cut section and had Swiss cheese like spongy appearance (Fig. 3). No necrosis was seen. Left adnexa were not received.



Fig. 2: Gross specimen of the adnexal mass



Fig. 3: Cut surface of the mass.

Microscopic Findings

Endometrium was in proliferative phase with few cystically dilated glands. Myometrium showed Adenomyosis. Cervix showed normal ectocervical and endocervical epithelium. No dysplastic changes were seen. Right ovary showed endometriosis and a small chocolate cyst.

The adnexal mass showed many benign endometrial glands lined by cuboidal to columnar epithelium surrounded by fibromatous stroma (Fig. 4). Many glands were cystically dilated with hemo-

siderin laden macrophages in their lumen (Fig. 5). No metaplastic or hyperplastic changes were seen. No intraglandular stromal papillae were seen. No periglandular stromal hypercellularity was seen. Stroma showed fibrous tissue, chronic inflammatory cell infiltrate, areas of hemorrhage and foci of xanthomatous change (Fig. 6). Scattered endometrial stromal cells were seen. No stromal atypia was seen.

A diagnosis of Florid Polypoid Endometriosis of Right Adnexa was made.

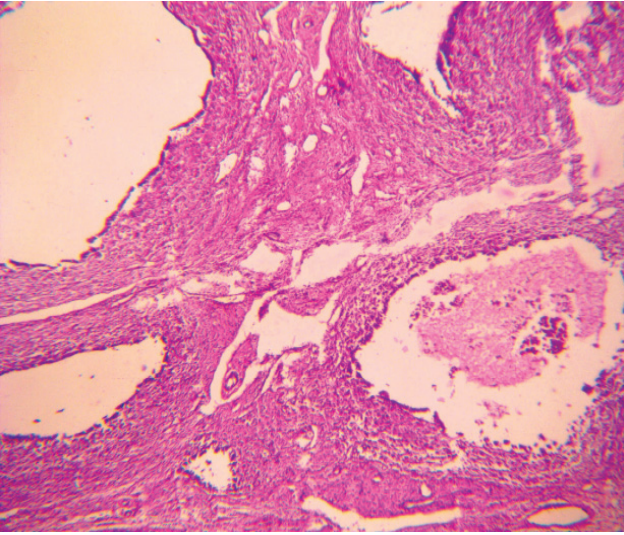


Fig. 4: Endometrial glands surrounded by stroma. (H & E $\times 10$)

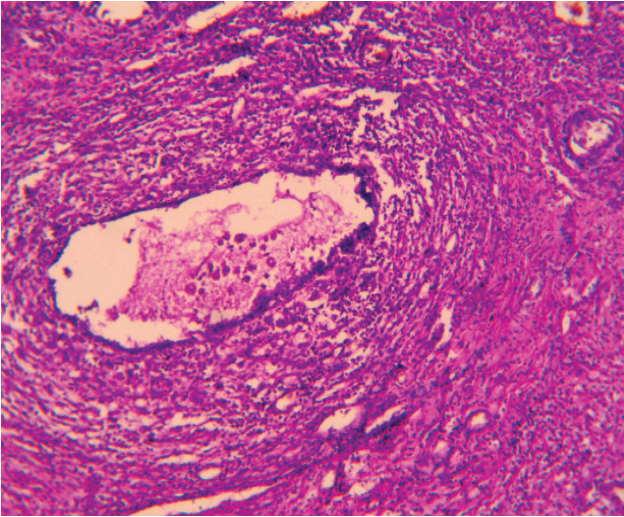


Fig. 5: Hemosiderin laden macrophages within the glands. (H & E $\times 10$)

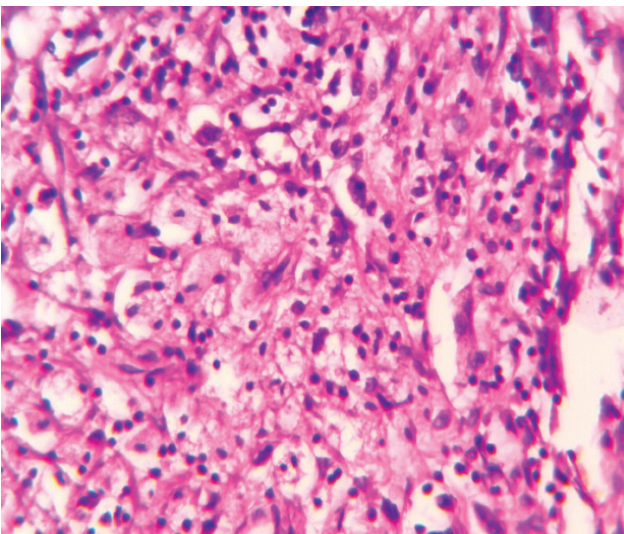


Fig. 6: Xanthomatous stroma. (H & E $\times 40$)

Discussion

Mostoufizadeh and Scully described an uncommon variant of benign endometriosis with histological features that resembled uterine endometrial polyps as polypoid endometriosis (7). In a later review, Parker *et al.* (8) described 24 women aged 23 to 78 years with polypoid masses that projected from serosal or mucosal surface, or from the lining of an endometriotic cyst. Most common clinical presentations were a pelvic mass, polypoid masses in cervical os or vagina with vaginal bleeding and large bowel obstruction (7, 8). Sites of involvement in order of frequency included colon, ovary, uterine serosa, vaginal mucosa, cervical mucosa, ureter, fallopian tube, omentum, bladder, paraurethral and paravaginal soft tissue, retroperitoneum and periadrenal soft tissue (7,8). The lesions ranged upto 14cm in size and formed polypoid, pink, gray or tan masses (8). Our case presented as a 25 cm pelvic mass.

On microscopy, polypoid endometriosis shows an admixture of endometriotic glands and stroma(8-10). A variety of glandular architectural (8-10) patterns can be observed, sometimes in combination , most commonly cystic and noncystic simple hyperplasia, but also simple or complex hyperplasia with atypia, disordered proliferative and cystic atrophy. Various types of epithelial metaplasias can be seen. No architectural atypia was seen in our case. Hemorrhage, fibrosis, prominent thick walled blood vessels, hemosiderin laden macrophages and decidual change can also be seen (8,9). Menstruation into endometriotic foci results in hemorrhage within stroma and glandular lumina, as well as a secondary inflammatory response consisting predominantly of diffuse infiltration of histiocytes (11). The latter typically convert extravasated red blood cells into glycolipid and granular brown pigment, becoming so called pseudoxanthoma cells (11). The amount of pigment in an endometriotic lesion

appears to increase with its age (11). Variable numbers of lymphocytes and smaller numbers of other inflammatory cells may be present (11). The main lesion in the differential diagnosis is a Mullerian adenosarcoma(8). Polypoid endometriosis lacks periglandular stromal hypercellularity, stromal atypia and intraglandular stromal papillae, distinguishing it from adenosarcoma (8). Some cases may be attributable to exogenous hormones or hyperestrogenism and like conventional endometriosis, some may evolve into pre-malignant or rarely a neoplastic lesion (11). An association has been suggested between polypoid endometriosis and prior tamoxifen use(9), although this patient had no history of prior hormone use.

It is generally believed that greater the CA-125 value, greater the probability that an abdominopelvic mass is malignant (1). Increased plasma levels of CA-125 can also be found in several benign conditions like superficial and deep endometriosis, adenomyosis, pelvic inflammatory disease, benign serous cyatadenofibroma(12) and uterine fibroids or physiological conditions like menstruation and early pregnancy (1,2). In general, plasma CA-125 levels reflect endometrial production, volume of ovarian endometriotic cysts and the volume of the deeply infiltrating endometriotic nodules (1).

In summary, this unusual case demonstrates that florid polypoid endometriosis, particularly with involvement of parametrium, with high serum CA-125 levels may show radiological features similar to those of a malignant disease. Although CA-125 has been proposed as a specific marker for ovarian cancer, it may present in many other benign and malignant conditions of both gynaecologic and non gynaecologic origin. Polypoid endometriosis is a rare manifestation of endometriosis that may be mistaken for a neoplasm on clinical, radiological, serological, intraoperative assessment thereby highlighting the role of pathologic assessment.

Acknowledgements

The authors declare that there is no conflict of interests.

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