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Case Report

Reconstruction of Anterior Abdominal Wall defect by Artificial Dermal Mesh: after a Wide Excision of Clear Cells Adenocarcinoma arising from Ectopic Endometriosis

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Abstract: Clear cell adenocarcinoma of the abdominal wall is traditionally treated by surgical resection with adjuvant postoperative treatment. We report the unusual case of a 49-year-old female who has presented a clear cell adenocarcinoma arising from an extra pelvic endometriosis node. The patient had a history of caesarian 8 years earlier and a progressive tumor process through anterior abdominal wall. Masked by umbilical hernia. After a large transfixing resection, abdominal wall reconstruction was performed by a biologic mesh cover by abdominoplasty. Although cases of adenocarcinoma arising from endometriosis have been already described, this is the first case reported with Stattice® artificial dermal mesh for the abdominal wall refection. This case shows clinical, radiographic, and histologic findings that may help the other surgeon to recognize and treat an unusual complication of extra pelvic endometriosis.
Keywords: ovarian clear cell adenocarcinoma, ovarian clear cell adeno fibroma, endometriosis, Ki-67, Reconstruction of anterior abdominal wall defect, artificial dermal mesh.

INTRODUCTION

Endometriosis affects 15%–44% of women of childbearing age, mainly in the pelvic region with occasionally in extra pelvic locations (abdominal wall it may be, umbilicus or associated with surgical scars), particularly after cesarean section (0.03%–0.45%) [1,2]. Abdominal wall endometrioma, a periods of 6–20 years have been reported after the initial surgery [2], and associated with pelvic endometriosis in 14.3%–26% of cases [2].

It is diagnosed preoperatively in 20%–50%. The typical complaint is cyclic menstrual pain. The differential diagnosis of a surgical incision mass in the abdominal wall includes hernia, desmoid, sarcoma, and metastatic disease [1].

Radiological investigation can assist the diagnosis; computed tomography scans and magnetic resonance Imaging are useful in that the appearance of endometriomas is similar to that of pelvic endometriosis [1]; while, ultrasound is not specific and scan results may change during a menstrual cycle [2]. Fine-needle aspiration biopsy is controversial.

Wide local excision with clear margins seems to be the only effective treatment [1]; synthetic mesh placement or tissue transfer may be necessary for wall closure [2]. Hormonal treatments relieve symptoms only [1]. Recurrences are rare. Atypical endometriosis may be a pre-cancerous state. The malignant transformation of abdominal wall endometrioma is poorly understood, but the existence of a carcinoma should be sought [1, 2].

Published cases are rare. Review literature, we found few; this is 22nd case of clear cell carcinoma in abdominal wall endometriosis after cesarean section; Co-exists with umbilical hernia.The first.

CASE REPORT

We report a case of a 49-year-old woman, presented with a lower abdominal mass characterized by intermittent fullness and tenderness for many years. Her history was significant for a cesarean section, last one8 years ago. Physical exam was significant for a 5 cm cystic tender lesion around the umbilicus. Radiographic features suggested a hernia, with no other mass.

After hernia repaired a second mass noticed and biopsied. Histology of a first excision biopsy specimen with different immuno-stainings was performed and examination shows tumor cells by co-expression of cytokeratin KL1, AE1/AE3, CK7, p16 and estrogen receptor with moderate accumulation of p53. Ki67 proliferation index is 30%. As shown in (Fig 2 a, Fig 2b). Histologic features suggest a clear cell carcinoma arising from endometriosis, initially thought to be a metastasis; full investigations were performed to trace the origin of this tumor. The ovary and uterine system were of special concern. Magnetic resonance (MR) and computed tomography (CT) scans of the pelvis and proximal thigh showed a heterogeneous mass that extended from sub umbilicus to 5 cm inferiorly midline (Figs 1). The mass occupied the anterior compartment of the abdominal wall with attachment to the rectus muscle; there was no sign of metastasis.

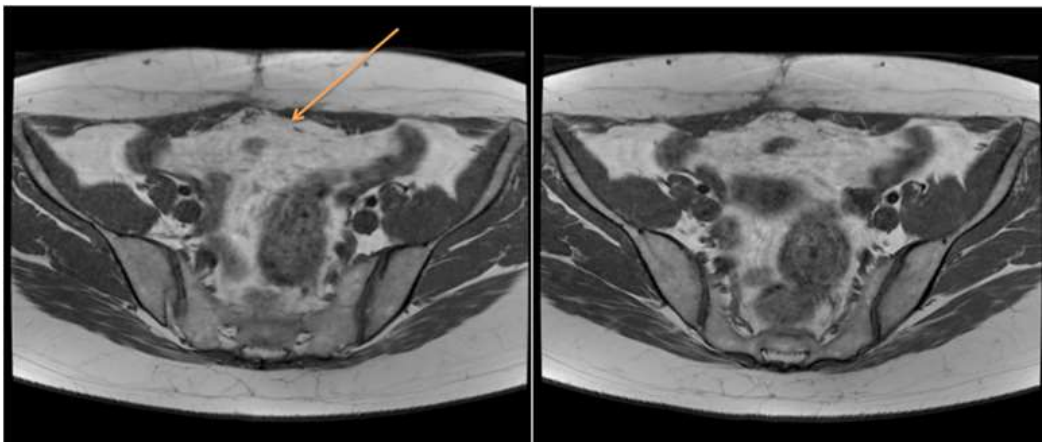

Fig.1:T1, T2weighted axial MR image showing a mass (high signal intensity) in the anterior abdominal wall

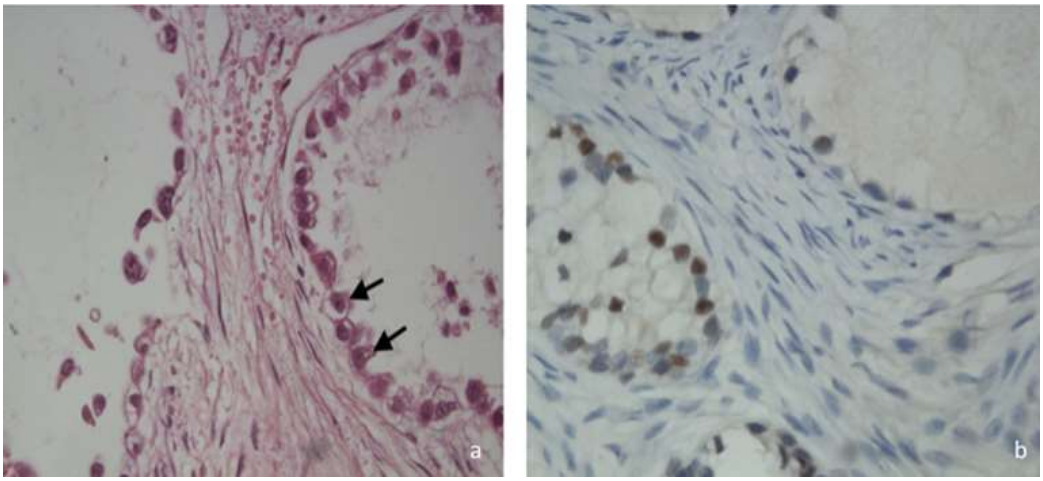

Fig 2a: HES-40x: Tumor cells have large nuclei, irregular size and shape, nucleoli (arrow), causing protrusion in lights.

Fig 2b: IHC-Ki67-40x: Proliferation index measured using anti-Ki67 is about 30%

Plans for wide resection were aborted pending a full investigation for a primary neoplasm, showed no evidence of neoplasm (serum levels of CA-125, CA-19, and carcinoembryonic antigen, radiographic studies showed no pulmonary masses).

The patient's history of mild cyclical pain and swelling with the menses followed by a mild persistent fullness is characteristic of endometriosis. This symptom was masked partially by hernia symptoms and it was postulated that the malignant tumor in her anterior abdominal wall might have arisen from this focus of extragonadal endometriosis. Wide local excision of skin, subcutaneous tissue, anterior abdominal wall, (Free margin of 3 cm (Fig 3)), and total hysterectomy, bilateral salpingectomy, ovariectomy and omentectomy, peritoneal samples were collected and the abdominal wall was reconstruction by a biological mesh: Porcine artificial dermal mesh: Strattice® Skin covering was performed with classical abdominoplasty.

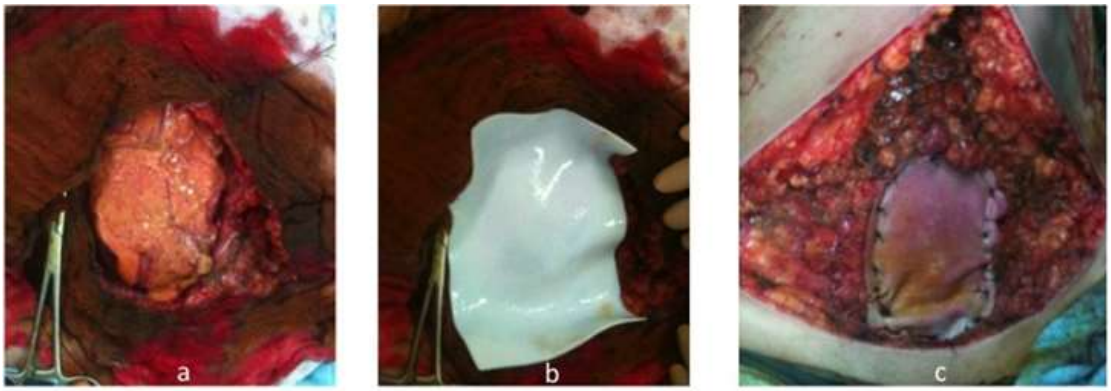

Fig 3: Patient shows a good postoperative course and recovery.

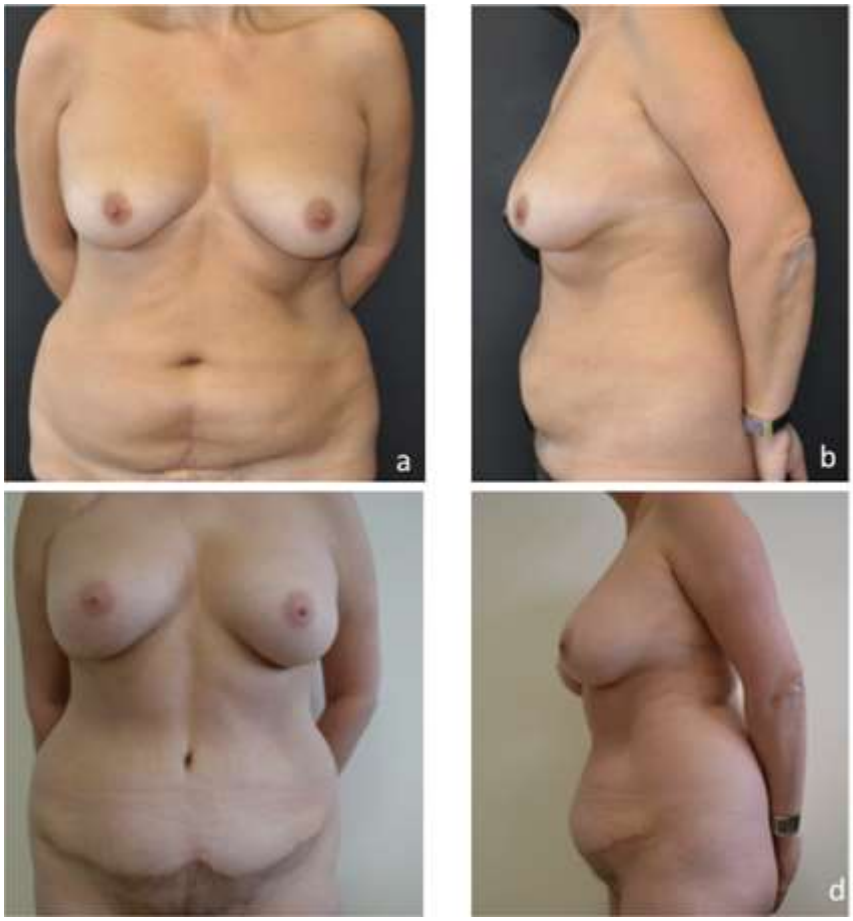

Fig 4: And more recent immunohistochemical findings strongly support the diagnosis of clear cell adenocarcinoma of intermediate grade that originated from preexisting endometriosis.

DISCUSSION

Malignant transformation of endometriosis is rare but has been well documented since its first description by Sampson in 1925; it is affects 1% of women suffering from endometriosis. In almost 25% percent of cases it occurs at extra ovarian sites [4].

Sampson's criteria for malignancy arising in endometriosis are as follows: first, the endometriosis is intimately associated with neoplasm; second, no other site of the same malignancy can be found; and finally, the histological appearance suggests endometriosis.

In addition to malignant transformation of endometriosis of ovary, a few cases of malignancy from extra ovarian endometriosis have been reported, in the rectovaginal septum [5], vagina [6], colon [7], rectum [8], urinary bladder [9] and scar endometriosis [10, 11]. The frequency in a given site parallels the frequency of endometriosis in those locations [12].

The incidence of scar endometriosis as well as the incidence of cancer developing from it is higher after abdominal-uterine operations, especially Cesarean section, than after other abdominal-pelvic operations [13]. The etiology of the development of carcinoma in the endometriosis is unknown. Risk factors for malignant extra ovarian endometriosis: hyperestrogenism, carcinogens and co carcinogens (such as dioxin and polychlorinated biphenyls), and some genetic anomalies (loss of heterozygosity on chromosome 5q) [4].

The malignant transformation of abdominal wall endometriosis is rare: few cases (21 cases) have been reported in the literature [4, 14–21]. The histological characteristics of extra ovarian transformations are primarily represented by endometrioid carcinoma (69.1%), sarcoma (25%) and clear cell carcinoma (4.5%)(14). A review of the literature indicates that malignant abdominal wall endometriosis, as in our case, is primarily represented by clear cell carcinoma [4, 14-21]. There is no specific marker for malignant transformation. Imaging neither sensitive nor specific for malignant transformation, magnetic resonance imaging could be the best way to demonstrate the fast growth of an endometrioma, or to investigate suspicious lesions (>10 cm), with a solid or mixed component [4].

Radical surgery with wide excision is the primary treatment and may be followed by abdominal wall reconstruction [14]. As we have reported, radical resection may be so wide that a synthetic mesh or graft may be required for abdominal wall closure. Chemotherapy [18, 21] and radiotherapy [15, 18–20] have been proposed, but there is no evidence to suggest that they improve prognosis

Endometrioid carcinoma and clear cell carcinoma of the ovary were reported to have a similar prognosis by some authors [22], while others reported a poor prognosis for clear cell carcinoma [23]. In addition, distant and local recurrence has been reported [14] rarity.

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