

Highly elevated levels of the antigen Ca-125 associated with inflammatory abdominal masses

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Abstract

CA-125 is well known as an ovarian cancer marker. Various studies have noted its growth in benign gynecologic conditions. A young woman was presented with an abdominal discomfort associated with pelvic masses and a very high level of CA-125=1259.85 U/mL. Surgical treatment revealed an inflammatory tumour. After excision of the masses CA-125 antigen decreased to the normal value. Very high levels of CA-125 are not necessarily associated with malignant process.

Key words: CA-125, ovarian tumors, inflammatory, abdominal, masses.

Introduction

High levels of the CA-125 antigen are mostly associated with ovarian malignancies, although its effectiveness in detecting malignant changes, particularly in the early stage, is low [1-5]. According to literature the most statistically effective cut-off point for CA-125 concentrations in detecting malignancies, regardless of their level of staging, falls between 30-35 U/mL [5-7]. The significant growth of CA-125 has been associated with benign gynecological conditions such as: endometriosis, ovarian neoplastic cysts, adenomyosis, parasitic diseases and inflammatory processes [3, 5, 8-12]. But the lack of malignancies associated with the level of the CA-125 higher than 1000 U/mL is very rare, and only a few previously reported cases have been found in literature concerning this diagnostic problem [9, 13-16].

Case report

A 33-year-old patient with abdominal pain was referred to our clinic. The examination revealed a retroflexed uterus, deviated to the left side of pelvis. A palpable resistance was detected in the approximate location of the right adnexa, which stretched to the right anterior superior iliac spine. The volume of the left adnexa was slightly increased. The ultrasound examination (Aloka SSD5000, Japan) revealed a partially cystic, partially solid mass in the location of the right adnexa whose dimensions were 66×47 mm with similar mass adjoining to the left ovary of dimensions 39×19 mm. Laboratory examination showed CEA and AFP markers were

Table I. Dynamics of changes of the original high concentration of CA-125 in the described case and data given in the literature

The clinical situation	CA-125 before treatment	10 days after the surgery	After 2 weeks	After 4 weeks	After 9 months*
parasitic leiomyoma [16]	1539.0 U/mL	311.0 U/mL	–	35.0 U/mL	–
cystis adenomyosis endometriosis [14]	1036.0 U/mL	–	–	9.0 U/mL	–
tuberculous peritonitis [15]	1248.5 U/mL	–	–	–	10.2 U/mL
own material	1259.85 U/mL	–	119.7 U/mL	34.4 U/mL	–

*level of the CA-125 was measured after complete 9-month tuberculosis treatment

within the normal range (CEA 2.1 ng/mL, AFP 1.91 ng/mL), CA-125 was highly elevated to 1259.85 U/mL and CRP 4.33 mg/L. Other laboratory test results (blood morphology, urine analysis, electrolyte levels) were all within the normal range (Axsym 2000, USA).

The patient underwent laparotomy, which revealed large inflammatory masses connecting the right adnexa and appendix, crossing over the iliac vessels and reaching to the promontorium. The adhesions were released and the inflammatory masses were removed along with the adherent right ovarian tube, ovary and the appendix. The final pathologic examination confirmed the result of the intraoperative sample examination: abscessus ovarii dextrii (M-41740), salpingitis et perisalpingitis dextrii, appendicitis et periappendicitis chronica (M-40000), omentitis (M-43000). The postoperative course was without any complications except for slightly elevated body temperature of 37°C. Thus, patient was administered Ceftriazone (2×1.0 g) and Metronidazolium (2×0.5 g). A repeat CA-125 drawn 2 weeks after the surgery showed a decline from the preoperative levels to 119.7 U/mL, and a decline to 34.4 U/mL a month after her surgery with CRP to 2.4 mg. After 2 months of monitoring, the symptoms totally regressed.

Discussion

Highly elevated levels of the CA-125 antigen correlated in addition with pelvic or abdominal masses typically suggest malignancies. Nevertheless, the result of the final pathologic examination can still be surprising, even with the use of a wide range of laboratory and imaging diagnostics. While ovarian cancer is most likely high on the list of differential diagnoses, atypical clinical presentation of fasciola may give rise to a misdiagnosis of malignancy [12, 17].

In our report, the decline of the CA-125 marker from the initial value of 1259.85 U/mL to 34.4 U/mL after 4 weeks from the operation confirms a rare situation, when a benign condition mimics a malignant process. In comparison, Ghamande et al.

describes a case of considerably high level of CA-125 associated with parasitic leiomyoma [16]. Postoperative monitoring of the antigen level showed a decrease to 35 U/mL (Table I). The equally high level of CA-125 1248.5 U/mL appeared to be tuberculosis peritonitis [15]. After the typical treatment, the level of CA-125 decreased to the normal values (Table I). Kammerer-Doak et al. described the case of a 37-year-old woman with adenomyosis and endometriosis, in which high values CA-125 were misleading, suggesting malignancy [14]. Similarly, as in the case of our patient, pathologic examination revealed the benign character of the process [14], and the postoperative monitoring confirmed the appropriateness of the undertaken treatment (Table I).

Conclusions

Apparently the benign gynecologic conditions can determine the high elevation of the CA-125 antigen. It seems that the postoperative and the adequate post-treatment monitoring is a valuable method in confirming the effectiveness of the undertaken treatment.

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