Treatment of Ruptured Ovarian Endometrioma with Extremely High CA 125, Moderately High CA 19-9 and CA 15-3 Level

Çok Yüksek CA-125 ile Orta Düzeyde Yükselmiş CA 19-9 ve CA 15-3 Değerlerinde Rüptüre Endometrioma Olgusu

Çok Yüksek CA-125 / Extremely High CA-125

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Özet

Bu yazıda, çok yüksek CA-125 düzeyi , orta derecede yüksek CA 19-9 ve CA 15-3 düzeyleri ile bir rüptüre ovaryan endometrioma sunulmuştur. Pelvik ağrı şikayeti ile başvuran 20 yaşındaki hastada solda 5 cm boyutunda adneksiyal kitle tespit edildi. Biyokimyasal incelemede çok yüksek CA-125 değeri (2556IU/ml),orta yüksek CA 19-9 (134IU/ml) ve CA 15-3 (65IU/ml) değerleri tespit edildi. Laparoskopi yapıldı ve rüptüre olmuş endometrioma görülmüştür. Kistin total eksizyonu sonrasında, tümör belirteçleri hızla düştü. Çok yüksek CA-125 değeri, orta yüksek CA19-9 ve CA 15-3 değerleri rüptüre endometriomalı durumlarda görülebilir. Genç hastalarda, endometrioma öncelikle ele alınmalı ve malignite ile ilgili herhangi bir bulgu veya kuvvetli şüphe olmadığı sürece laparoskopi yerine daha invaziv yöntemler uygulanmamalıdır.

Anahtar Kelimeler

Endometriozis; Endometrioma; CA-125; CA 19-9; CA 15-3

Abstract

In this case report, a ruptured ovarian endometrioma with a very high CA-125 level, moderately elevated CA 19-9, and CA 15-3 levels is presented. A 20 years old patient, complaining from pelvic pain, 5 cm adnexial mass was detected on left side. Biochemical examination was revealed very high CA-125 value (2556IU/ml), moderately elevated CA 19-9 (134IU/ml), and CA 15-3 (65IU/ml) values. Laparoscopy was done and a ruptured ovarian endometrioma of 5 cm was seen during operation. After the total excision of the cyst, tumor markers fell rapidly. Very high CA-125 value, moderately elevated CA19-9, and CA 15-3 values can be seen in cases with ruptured endometrioma. In young patients, endometrioma must be considered firstly and laparoscopy should be applied instead of more invasive methods unless there was any finding or strong suspicion about malignancy.

Keywords

Endometriosis; Endometrioma; CA-125; CA 19-9; CA 15-3

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Introduction

CA-125 (Carbohydrate antigen 125) is a well-established tumor marker to monitor the effectivity of ovarian cancer therapy and early observe its relaps [1]. In 80 % of non-mucinous epitelial ovarian cancers, CA-125 level is elevated [2]. Plasma CA-125 value does increase not only in ovarian cancer, but also in benign conditions such as uterine myomas, pelvic inflammatory diseases and especially endometriosis [3]. Although many studies reveal the relation between high plasma CA-125 levels and endometriosis, very high levels (>1000IU/ml) are rarely seen in cases with endometriosis [4].

CA 19-9 is a glycoprotein that increases in gastrointestinal tumors, benign and malignant ovarian tumors. Serum values also increase in cases with advanced stage endometriosis. Another serum tumor marker; CA 15-3 is secreted from malignant breast tumor cells and does not actually increase in endometriosis [5, 6].

In this case report, a ruptured ovarian endometrioma case with very high CA-125, moderately high CA 19-9 and CA 15-3 levels was presented and discussed.

Case Report

A 20 years old woman with regular menstrual cycles who suffers from pelvic, abdominal pain and dysuria was admitted hospital. There wasn't any pathologic sign in systemic examination. Heart rate was 92/min, blood pressure was 120/80 mmHg and body temperature was 38°C. Tenderness and rebound were detected in left lower quadrant during abdominal examination. Hemoglobin was 12 g/dl, WBC was 19200/dl and beta hCG was negative in laboratory assessment. 5x5 cm heterogeneous left adnexial mass was detected by ultrasonography. In computerized tomography, the same 5x5 cm contrast-fixing heterogeneous mass, which seemed to be originated from the left ovary was detected and minimal pelvic fluid was seen. Tumor markers were studied and following values were found: CA-125: 2556 IU/ml (<35 IU/ml), CA-15-3: 65 IU/ml (<25 IU/ml), CA-19-9:134 IU/ml(<39 IU/ml).

Laparoscopy was done under general anesthesia. Adhesions and focal endometriotic areas in pelvic peritoneum and a 5 cm ruptured endometrioma in the left ovary were seen. Adhesiolysis was done and endometrioma was excised completely. Focal endometriotic areas were cauterized. Abdominal cavity was irrigated and cleansed with normal saline. After the operation CA-125, CA 19-9 and CA 15-3 levels fell rapidly to 215,6 IU/ml, 35,76 IU/ml and 20,9 IU/ml levels respectively. Histopathologic exam was reported as endometrioma.

Discussion

Elevated CA 125 level was especially seen in malignant ovarian epithelial tumors. Remarkable point in this case is very high CA-125, moderately high CA 19-9 and CA 15-3 levels which make us to consider the case suspicious for malignancy.

CA 125 levels over 65 IU/ml are seen frequently in malignant ovary tumors. Cut off value of 65 IU/ml has 88-92% sensitivity and 75-83% spesificity in distinguishing of malignant and benign ovarian tumors [7,8]. On the other hand another cut off value of CA 125 >194 IU/ml for distinguishing malign and benign ovary tumors is reported [9]. Moreover endometriosis cases with very high levels of CA-125 (>1000 IU/ml) were reported in literature [10-12].

CA 19-9 is another plasma tumor marker that increases in gastrointestinal adenocarcinomas, lung carcinomas and some ovarian tumors. It is also elevated in endometriosis; however its sensitivity is lower than CA 125 [5]. Alteration in the CA 19-9 level is mostly correlated with endometriosis level [5].

Another plasma tumor marker is CA 15-3. It is frequently secreted from malignant breast tumor cells. It is elevated 71% in malign ovarian tumors and 20% in benign ovarian pathologies [6].

Adhesions in peritoneum, in omentum, ovary, tuba, colon and cul de sac, size and presence of ruptured endometrioma, the stage of endometriosis are related with the high levels of CA-125 in cases with endometriosis. Especially ruptured endometrioma and omental adhesions are the most important causes for elevated CA-125 levels [13]. On the other hand CA-125 levels does not get elevated too much in the unruptured endometriomas due to thick capsula of cyst. In these cases plasma CA-125 levels are usually under 100 IU/ml [14-15].

In cases with endometrioma plasma CA 125 levels increase rapidly after rupture of cyst and decrease after operation. There are two reasons of the increase in plasma CA 125 levels after rupture of cyst: the first one is the production of CA125 by the peritoneal mesothelium due to the peritoneal irritation caused by the content of cyst. The latter is the passage of CA -125 present inside the endometrioma, into sistemic circulation by the way of peritoneal surface [16]. Similiarly there was rupture of endometrioma in our case and the CA 125 level fell rapidly after the total excision and extraction of the cyst from peritoneal cavity.

Matalliotakis et al.[17] reported that peritoneal fluid CA-125 levels are significantly higher in endometriosis patients than the control group. Also CA 19-9 and CA 15-3 levels are higher in peritoneum of these cases than in serum however there were no significant difference with the control group.

Bayramov et al. [16] reported 4 endometrioma cases with very high levels of serum CA-125 (>1000 IU/ml) 3 of which ruptured and 1 was widespread. Also in two different studies about the serum CA-125 levels of ruptured endometrioma, levels were measured 9300 IU/ml and 6114 IU/ml respectively [18,19].

In stage 3-4 endometriosis cases CA-125 and CA 19-9 levels are significantly higher than control group. If the cut off value is assumed 20 IU/ml for CA-125 and 10 IU/ml for CA 19-9 the sensitivity of these tests are measured 72% and 59%; the specifity is 71% and 55% respectively [20].

Kurdoğlu et al.[21] were done a study to find if CA 19-9 can be used instead of CA 125 in endometriosis. They determined that CA 19-9 is an important marker especially in advanced endometriosis. Moreover Tsao et al.[21-23] showed higher CA 125 and CA 19-9 levels in their study on 19 patients with endometriosis or myoma uteri. They also found that in some patients only CA 19-9 was increased instead of CA 125. As a result it is advised to use this markers together in the diagnosis of endometriosis .

Elevation of both CA-125 and CA 15-3 is rare in endometriosis cases. Muscatello et al.[24] reported that the combined usage of serum CA 125 and Ca 15-3 had no benefit on diagnosis of endometriosis. Canda and colleagues [25] reported a case of

endometriosis which have very high levels of CA 125 and elevated levels of CA 15-3 . Similarly in our case CA 125 level was very high and CA 15-3 and CA 19-9 levels were also elevated. Consequently although in the presence of adnexial mass the elevated levels of CA 125 and CA 19-9 primarily suggest malignancy, this can also be seen ruptured endometrioma or widespread endometriosis. Therefore in the young cases who had no signs of malignancy ruptured endometrioma should kept in mind and laparascopy as a less invasive method must be preferred instead of laparatomy[26]. Usage of CA 125 and CA 19-9 together especially for the diagnosis and follow up of the high grade endometriosis is useful. CA 15-3 can increase in high grade endometriosis but it doesn't have any value in diagnosis and follow up.

Competing interests

The authors declare that they have no competing interests.

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