

Abdominal wall endometriosis imaged with scintigraphy: report of a case

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Özet

Karın duvarındaki endometriozis odağının sintigrafi ile görüntülenmesi

Endometriyozis üreme çağı kadınlarında oldukça sık görülen bir jinekolojik patolojidir. Rektus abdominis kasının içine yerleşen endometriyozis nadir görülen ve özellikle sezaryen ameliyatı sonrası ortaya çıkan bir patolojidir. Nadir görülen hastalığın günümüz gelişmiş görüntüleme yöntemlerine rağmen tanısındaki zorluklar devam etmektedir. Ultrasonografi (USG), Bilgisayarlı Tomografi (BT), Manyetik Rezonans Görüntüleme, İnce İğne Aspirasyon Biopsisi kullanılan tanı yöntemleridir. Yirmisekiz yaşındaki kadın hastaya menstrual döneminde yapılan USG ve BT'de her iki rektus kılıfı arasında yerleşim gösteren 2 cm çaplı kesin tanısı belirlenemeyen kitle tespit edildi. Yapılan eritrosit işaretleme sintigrafisinde kitle lokalizasyonunda radyotracer akümüasyonu görüldü. Tc-99m eritrosit işaretleme sintigrafisinin abdominal endometriyozis tanısında faydalı olabileceği düşünüldü.

Anahtar kelimeler: Endometriyozis, Karın duvarı, Radyonükleid görüntüleme, Tc-99m eritrosit işaretleme.

Abstract

Endometriosis is a common gynecologic problem that is usually seen in the reproductive period. Abdominal endometriosis is a rare form of endometriosis especially seen after cesarean section, and diagnosis might be problematic. Ultrasonography (USG), computed tomography (CT), magnetic resonance imaging (MRI), and fine-needle aspiration biopsy (FNAB) can be used as diagnostic procedures. On USG and CT done during the menstruation phase of a 28-year-old woman, an unidentified 2 cm diameter mass between the two rectus sheaths is reported here. We performed red-blood cell scintigraphy and detected radiotracer accumulation on the localisation of the mass. We suggest that Tc-99m RBC scintigraphy is a useful method for diagnosis of abdominal endometriosis.

Key words: Endometriosis, Abdominal wall, Radionuclide imaging, Tc-99m RBC.

Introduction

Endometriosis is the aberrant presence of uterine mucosa in locations outside the uterus. It may be pelvic or extra pelvic. Extra pelvic endometriosis can be seen in central nervous system, lung, small and large bowel, gallbladder, stomach, kidney, extremities, perineum, and abdominal wall. (1,2) Abdominal wall endometriosis usually occurs after surgical procedures especially after Cesarean section. (3) Scar endometriosis have also been reported after tubal ligation, salpingectomy, inguinal hernia repair, ectopic pregnancy, laparoscopy, and hysterectomy. (1,4,5)

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Incidence of endometrioma after Caesarean section has been reported to be 0,03-0,4%. (6,7) Primary cutaneous endometriosis has also been documented. (8) Ultrasonography (USG) (9), computed tomography (CT) (10,11), magnetic resonance imaging (MRI) (11,12), and fine needle aspiration biopsy (FNAB) (13) were used for the diagnosis of abdominal wall endometriosis, but to our knowledge there were no cases imaged with scintigraphy.

Case report

A 28-year-old woman presented with an abdominal wall mass associated with pain during menstrual cycle. During physical examination a solid mass, 1 cm in diameter, was found 2 cm above umbilicus on abdominal wall. She had Pfannenstiel incision due

to previous cesarean section. Excisional biopsy was done. Pathology result reported endometriosis. One year after the first resection, she presented with the same complaint. On USG and CT done during the menstruation phase, 2 cm in diameter mass between the two rectus sheaths was reported. We performed Tc-99m RBC scintigraphy in the second day of the menstrual cycle. We labelled the erythrocytes with in vivo method. After 20 minutes following the intravenous injection of stannous pyrophosphate (containing 1 mg stannous chloride dehydrate), a camera was placed over the abdominopelvic region on anterior projection. Dynamic imaging (60 images, 1 sec/frame and 30 images, 1 min/frame) was performed by injecting 18 mCi of Tc-99m pertechnetate intravenously followed by Single Photon Emission Computerised Tomography (SPECT) imaging (360° rotation, 20 sec/step, 6° intervals). We used low energy, high resolution, parallel hole collimator fitted with the gamma camera (GE Millennium MPS, GE Electric Company, Milwaukee, Wisconsin, USA). In dynamic images, radiotracer accumulation was seen on lower abdomen, on the midline of the body between both iliac arteries starting from the second minute (Fig 1). In SPECT images, radiotracer uptake was well localised on the abdominal wall. In the histopathological examination, endometrial like glands and endometrial stroma were seen (Fig 2).

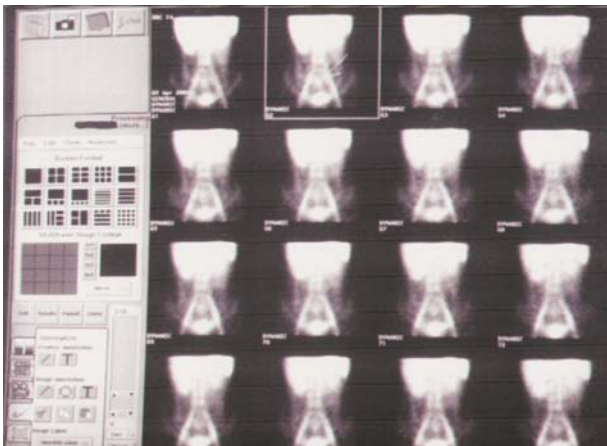


Figure 1: Significant radiotracer accumulation on lower abdomen between two iliac arteries in dynamic images.

Discussion

Endometriosis is a common gynecologic problem that usually occurs in women during the reproductive age (14). Abdominal wall endometriosis might be seen after cesarean section (0.03-0.4%) (6,7). This incidence has been reported up to 1% (15,16). On

the other hand, endometriosis can occur after operations of uterus and fallopian tubes (17,18), and after appendectomy (17), episiotomy (19,20), laparoscopic procedures (4), amniocentesis (21), and inguinal hernioraphy (1). Primary cutaneous endometriosis has also been documented at sites such as the umbilicus, vulva, perineum, groin, and extremities. (8) In our patient, the mass was just 2 cm above the umbilicus and not at the previous caesarean incision.

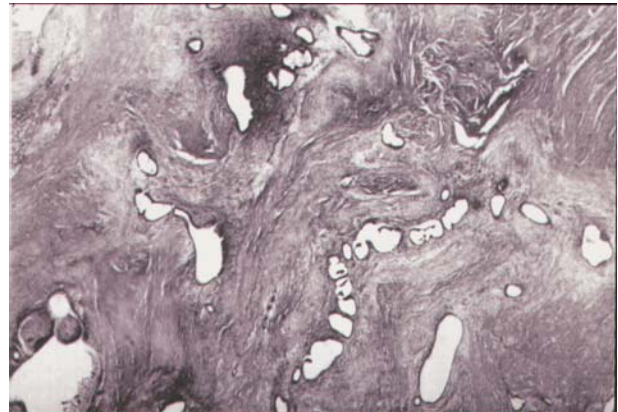


Figure 2: Irregular endometrial glands with associated stromal cells among skeletal muscle fibers and fibrocollagen tissue (HE, X25).

The most common symptom of abdominal wall endometriosis is painful mass. The pain is generally cyclic and may correlate with the menstrual cycle. This cyclic pain is probably due to hormonal influences that cause changes in size, cutaneous bleeding, and bruising. (5) Abdominal wall endometriosis is usually confused with conditions such as hernia, suture granuloma, lipoma, hematoma, abscess, sebaceous cyst, primary or metastatic neoplasms. (22,23,24) Although some diagnostic procedures have been used and described in the literature, in one study the correct preoperative diagnosis was made in only 2 of 10 patients. (23) The definite histological diagnosis of endometriosis requires 2 of the 3 following features: endometrial stroma, endometrial-like glands and hemosiderin pigment. In the pathological examination of our case, endometrial-like glands and endometrial stroma were seen but hemosiderin pigments were not observed. USG, CT, MRI, FNAB are the diagnostic procedures. In our patient, a mass of 2 cm in diameter was found in USG and CT between the two sheaths of rectus abdominis muscle. (Fig.3)

Surgical wide excision of the lesion is still the only treatment of choice and tool for diagnosis of endometriosis. (5,25) Medical treatment with danazol (26) and leuprolide (27) alleviate the symptoms with

some side effects including amenorrhoea and dyspareunia. Sometimes facial resection, which may necessitate a synthetic mesh replacement, can be required. In our case wide excision was carried out.



Figure 3: USG image of the mass (2 cm in diameter) between the two rectus muscle sheat

There was only one case report about scintigraphic finding of adenomyosis localised in uterine wall. (28) It was visualised by angiographies and blood-pool images of the 3-phase bone scintigraphy of a woman with low back and lower extremity pain. To our knowledge, our case is the first abdominal wall endometriosis patient imaged with scintigraphy (especially with red-blood cell scintigraphy). Because the endometriotic glands are cyclicly bleeding tissues, red-blood cell scintigraphy can be used in the menstrual phase of the patients. We suggest that it may probably have higher sensitivity during this period. If the endometriotic focus is in the uterus or superposed with it, differentiation from the uterine tissue might be impossible using planar imaging. SPECT is needed for evaluating the superposed pathologies. In conclusion, scintigraphic imaging might be considered in women with unexplained cyclic pain and infertility.

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