

Case Report

Endometriosis in the Surgical Scar Tissue after Caesarean Section

Aysenur Deger^{1*}, Faik Yaylak² and Zulfu Bayhan²¹Dumlupinar University, Department of Pathology, Turkey²Dumlupinar University, Department of General Surgery, Turkey

*Corresponding author

AyseNur Deger Dumlupinar University, Faculty of Medicine, Department of Pathology, TURKEY, Tel: 905052730538; Fax: 902742716620; Email: ayhade@yahoo.com

Submitted: 28 July 2014

Accepted: 07 August 2014

Published: 11 August 2014

Copyright

© 2014 Deger et al.

OPEN ACCESS

Keywords

- Caesarean
- Extra pelvic endometriosis

Abstract

Presence of endometrial tissue outside the uterus is defined as endometriosis, which is common in the fertile women (1,2). Pelvic operations such as abdominal hysterectomy and caesarean section may result with endometriosis in the scar tissue (1). This condition is commonly an under-appreciated or misdiagnosed phenomenon in general surgery (1). Here, we present three cases with endometriosis in the surgical scar tissue after caesarean section. In all three cases, patients were presented with a painful mass. These three patients denied any systemic and/or gynecological symptoms. All cases were treated with excision and their postoperative course was uneventful.

INTRODUCTION

Endometriosis is defined as the presence of endometrial tissue outside the uterus and is common in fertile woman (1,2). Endometriosis has different clinical manifestations, and there is debate on its diagnostic and therapeutic aspects (2). Pelvis is the most frequent location of the endometriosis. Endometriosis has been reported on the peritoneal and serosal surfaces of the intra abdominal organs in pelvis such as ovaries, fallopian tubes, peritoneum, and retro-vaginal septum (2,3). In addition, extra-pelvic endometriosis has been reported in any region of the body including bowel, bladder, lung, kidney, extremities, perineum, umbilicus (2,3). Approximately 5% of all cases of endometriosis are located in the intestinal tract and intestinal tract is the most common site of the extra-pelvic location of the endometriosis (3,4).

Extra-pelvic endometriosis may be seen in the surgical scar area and in the subcutaneous tissue after obstetric and gynecologic surgery. Endometriosis may be seen after the interventions that contain endometrial tissue such as caesarean section, episiotomy for a normal birth, or hysterectomy and operation for ectopic pregnancy (1). Caesarean section scar endometriosis is a rare cause of endometriosis and the rate of surgical scar endometriosis after caesarean section has been reported range between 0.03-1.7percent (2). This rare clinical condition is a commonly under- appreciated or misdiagnosed phenomenon in general surgery (1).

Here, we present three cases with endometriosis in the surgical scar tissue after caesarean section.

CASE PRESENTATION

Case1

28-year-old female patient with a history of cesarean section (five years ago) has been presented with a painful swelling adjacent to cesarean scar in the right lower quadrant five years after the cesarean section. The period between formation of the mass and surgery time was 6 months and asymptomatic period was five years. The patient did not have cycle-related symptoms in menstruation period and did not have a symptom that suggests pelvic endometriosis. A subcutaneous soft tissue was confirmed with the presence of a hypo echoic lesion was detected in 11 mm diameter by ultrasonography imaging. The lesion was excised with the preliminary diagnoses of desmoid tumor and endometriosis. The pathological examination confirmed the diagnosis of endometriosis. No recurrence was seen in 8 months of follow-up period after surgery.

Case 2

32-year-old female patient with a history of two deliveries with cesarean section (four and six years ago) has presented with a painful swelling on the cesarean section scar. The period between formation of mass and surgery time was 3.5 months. Asymptomatic period was 4 years. The patient did not have cycle-related symptoms of the mass in menstruation periods. In addition, she has had no symptom that suggests pelvic endometriosis. A hypo echoic lesion in size of 5 cm was detected by ultrasonography imaging. The preliminary surgical differential diagnoses were desmoid tumor, granuloma of the suture and endometriosis. The mass was totally excised. The macroscopic dimensions of the mass were 5x4x3 cm and macroscopic view

revealed fibrotic, cystic mass with focal hemorrhage in the lesion (Figure 1). Microscopically irregular endometrial glands were seen within the fibrotic stroma (Figure 2) Histopathological findings were consistent with endometriosis. There was no recurrence in 6 months of follow-up after the surgery.

Case 3

28-year-old female patient with a delivery history with cesarean section (five and eight years ago) was presented with a painful swelling on the cesarean section scar. The period between formation of mass and surgery time was two months. Asymptomatic period was five years. The cycle-related symptoms of the mass were present such as increase in pain, hemorrhage, brown discoloration in menstruation period. There was no symptom suggesting pelvic endometriosis. A lobulated and hypoechoic lesion in diameter of 5 cm was detected by ultrasonography imaging. The preliminary surgical differential diagnoses were endometriosis and desmoid tumor. The lesion was totally excised.

Enlarged endometrial glands in fibrotic stroma were detected histomorphologically, which were compatible with endometriosis (Figure 3). There was no recurrence in six 6 months of follow-up period after the surgery. The diagnosis of endometriosis was confirmed in all of the cases. There was no sign of hyperplasia, atypia, and malignancy in the endometrial glands. No recurrence was observed in the follow-up period after the surgery in all cases.

DISCUSSION

Endometriosis is the disease of the women in reproductive period and the most common term of the disease is the fourth decade of the life (2-5). The incidence is 7-10% in general female population, but the incidence increases to 20-50% among in fertile women (1). Pathophysiology of scar endometriosis is explained with some theories. The most accepted theory of the endometriosis is the migration of endometrial cells from the tubes to the intraperitoneal cavity during menstruation (2). Endometriosis in different regions of the body such as brain and lung, can be explained by hematogenous, lymphogenic and iatrogenic spread of endometrial cells (3). Another theory is iatrogenic transplantation of endometrial cells on the surgical wound, hematogenous and lymphogenic spread. However, in

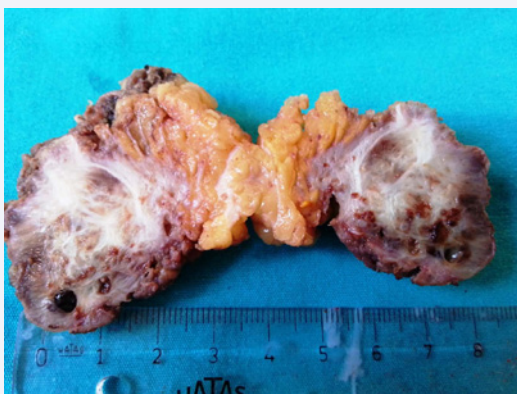


Figure 1 Endometriosis- macroscopic view-Case-2.

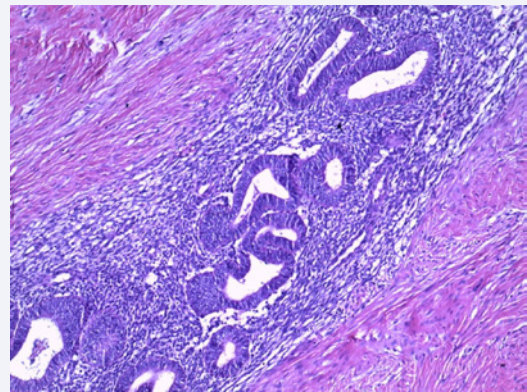


Figure 2 Irregular endometrial glands within the fibrotic stroma H&E X100-Case2.

Case3: 28-year-old female patient with a delivery history with cesarean section (five and eight years ago) was presented with a painful swelling on the cesarean section scar. The period between formation of mass and surgery time was two months. Asymptomatic period was five years. The cycle-related symptoms of the mass were present such as increase in pain, hemorrhage, brown discoloration in menstruation period. There was no symptom suggesting pelvic endometriosis. A lobulated and hypoechoic lesion in diameter of 5 cm was detected by ultrasonography imaging. The preliminary surgical differential diagnoses were endometriosis and desmoid tumor. The lesion was totally excised.

Enlarged endometrial glands in fibrotic stroma were detected histomorphologically, which were compatible with endometriosis (Fig.3). There was no recurrence in six 6 months of follow-up period after the surgery.

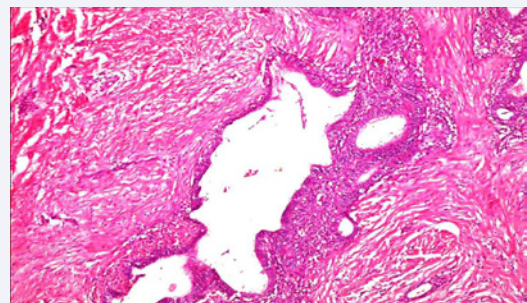


Figure 3 Endometrial glands and endometrial stroma around glands H&E X100-Case-3.

The diagnosis of endometriosis was confirmed in all of the cases. There was no sign of hyperplasia, atypia, and malignancy in the endometrial glands. No recurrence was observed in the follow-up period after the surgery in all cases.

some patients combination of these theories may take role in development of endometriosis. Tissue implants on surgical wound and the endometrium in the uterine cavity can be affected by similar hormonal stimulants and they may proliferate by this way, or fascial tissue surrounding the endometrial tissue implants may indicate metaplasia (3).

Clinically asymptomatic endometriosis has been reported previously (3-6). However, some symptoms such as dysmenorrhea, dyspareunia, chronic pelvic pain may be observed in endometriosis (6). In addition even infertility may be related to

endometriosis. Rate of infertility associated with endometriosis has been reported about 10% in a few studies. (7)

The most common symptom is the formation of a painful mass in the surgical scar endometriosis (2). Previous history of caesarean section, painful and growing mass on the area of caesarean section, bleeding and skin discoloration in the region of caesarean section should suggest endometriosis (3). Drainage, bleeding from the area of surgical scar during menstruation, defined as cyclic symptoms. Cycle-related symptoms are pathognomonic for surgical scar endometriosis (1,3). In our experience, cycle-related symptoms were observed only in one case. There was no cycle-related symptom in the other cases.

Diagnosis of endometriosis is largely dependent on the clinical consideration of the possibility of the disease and physical examination (2-3). Ultrasonography, computed tomography (CT), magnetic resonance imaging (MRI) and fine needle aspiration biopsy (FNA) are auxiliary diagnostic methods (1,3,8). A very high sensitivity (90%-92%) and specificity (91%-98%) rates for CT and MRI have been reported in diagnosis of endometriosis (9). Ultrasonography is helpful in distinguishing solid and cystic masses and relationship of the mass between fascia and the skin. Ultrasonography is also useful for differential diagnosis of incisional hernia (3,10). MRI may help the diagnosis of small lesions due to high spatial resolution (3,11). Fine needle biopsy may gain an important role on diagnosis in some selected patients who do not accept surgical intervention (1,12,13). Nevertheless, in our most cases, the diagnosis is established by histological examination. Desmoid tumor, suture granuloma, metastatic disease, incisional hernia, hematoma, lipoma, abscess should be considered in the differential diagnosis (2). Malignant and benign soft tissue tumors of abdominal wall should be always considered in the differential diagnosis (12). Miss diagnosis of scar endometriosis is not rare and commonly these tumors are diagnosed as previously mentioned soft tissue tumors (9). In our two cases desmoid tumor was the preoperative diagnosis (Case1, case3). In the other case desmoid tumor and suture granuloma were preoperative diagnosis (Case2). In all cases it was possible for us the diagnosis with histopathological examination.

Medical treatment provides hormonal suppression of hypothalamic-pituitary ovarian pathway (3). Oral contraceptives, progesterone, gonadotropin-releasing hormone analogues are used for suppression treatment. However, recurrence is common after cessation of hormonal therapy. On the other hand, medical treatment is usually not effective in surgical scar endometriosis, which requires surgical intervention. A wide total excision of the mass is necessary and leaving at least 1cm of clear resection margin in order to prevent recurrence and malignant transformation of endometriosis is recommended (3,9). However, data for safe surgical margins is limited (5). The same surgical technique was applied for our cases. Proper surgical technique and carefully intervention during caesarean sections is essential in preventing scar endometriosis. In addition, some have advocated a through cleaning and irrigation of abdominal wall wound before closure (9). Sclerotherapy by ethanol injection has been recommended as alternative treatment modality for surgical scar endometriosis to prevent abdominal wall defect after wide excision (14). Thus, type and width of the surgical excision and closure should be decided

according to the needs of the individual patient. Laparoscopy may be done to assess the presence of pelvic endometriosis with scar endometriosis. Presence of scar endometriosis and pelvic endometriosis at the same time is rare (3). Therefore, explorative laparoscopy is recommended only for the patients with any symptoms that suggest pelvic spread (3). In our cases, there was no symptoms suggesting pelvic endometriosis and laparoscopy was not implemented.

A recurrence rate of endometriosis after surgery was reported to be 4.3% in some series (5). Rate of malignant degeneration has been reported to range between (0.3-1%) in a previous series (3). Malignant transformation of endometriosis has been reported in scar endometriosis as in other cases of endometriosis. The most common histological pattern is endometrioid carcinoma. However, extremely rare pattern (clear cell carcinoma) has been reported recently (15). No malignancy was observed in endometrial tissue samples in our cases. All cases were treated with wide surgical excision. No recurrence was observed in patients after excision in postoperative follow-up period.

CONCLUSION

Abdominal scar endometriosis is reported to be one of the rare causes of endometriosis in the literature. However, it may be observed more common than it has been reported in the literature. A painful mass is observed clinically. Diagnosis is dependent on the clinical consideration of the possibility of the disease, physical examination and a good reception of medical history. Radiological examinations are partially helpful for the diagnosis, but a definitive diagnosis is made by histopathological examination. Hormonal treatment is usually ineffective. Treatment modality to prevent from recurrence of the disease is wide excision.

REFERENCES

1. E Pikoulis, J Karavokiros, K Veltsista et al. Abdominal Scar Endometriosis after Caesarean Section: Report of Five Cases. *West Indian Med J.* 2011; 60: 351-353
2. Ahmet Uysal, SemihMun, Cüneyt EftalTaner Endometrioma in abdominal scars . case reports of four cases and review of the literature. *Arch GynecolObstet.* 2012; 286:805-808
3. Mistrangelo M, Gilbo N, Cassoni P, Micalef S, Faletti R, Miglietta C, et al. Surgical scar endometriosis. *Surg Today.* 2014; 44: 767-772.
4. Brenner C, Wohlgemuth S. Scar endometriosis. *SurgGynecol Obstet.* 1990; 170: 538-540
5. Horton JD, Dezee KJ, Ahnfeldt EP. Abdominal Wall endometriosis: a surgeon's perspective and review of 445 cases. *Am J Surg.* 2008; 196:207-212.
6. Nácúl AP, Spritzer PM. Current aspects on diagnosis and treatment of endometriosis *Rev Bras Ginecol Obstet.* 2010; 32: 298-307.
7. MárciaMendonçaCarneiro, Ivone Dirk de Sousa Filogônio, Luciana Maria Pyramo Costa, Ivete de Ávila, and Márcia Cristina França Ferreira Clinical Prediction of Deeply Infiltrating Endometriosis before Surgery: Is It Feasible? A Review of the Literature *Biomed Res Int.* 2013; 2013: 564153.
8. Chatziparadeisi A, Daniilidis A, Diavatis S, Vrachnis N, Carcea F, Giannoulis C. Abdominal wall endometriosis after a caesarian section-

- an interesting case report. *ClinExp Obstet Gynecol.* 2014; 41: 360-361.
9. Nanda JP, Vijay K, Anita G. Scar Endometriosis-A Sequel of Caesarean Section. *J ClinDiagn Res.* 2014; 8: FD09–FD10.
 10. Hensen JH, Van Breda Vriesman AC, Puylaert JB. Abdominal Wall endometriosis: Clinical presentation and imaging features with emphasis on sonography. *AJR Am J Roentgenol.* 2006; 186: 616-20
 11. Bayleyguier C, Chapron C, Chopin N, Helenon O, Menu Y. Abdominal Wall and surgical scar endometriosis. Results of magnetic resonance imaging. *Gynecol Obstete Invest.* 2003; 55: 220-224.
 12. CavitÇöl EdipErdal Yilmaz. Cesarean scar endometrioma: Case series *World J Clin Cases.* May 16, 2014; 2: 133–136.
 13. Griffin JB, Betsill WL. Subcutaneous endometriosis diagnosed by fine needle aspiration cytology. *ActaCytol* 1985; 29: 584-588.
 14. Bozkurt M, Cil AS, Kara D. Intramuscular Abdominal Wall Endometriosis Treated By Ultrasound-Guided Ethanol Injection. *Clin Med Res.* 2014.
 15. Matsuo K, Alonsozana EL, Eno ML, Rosenhein NB, Im DD. Primary periteal clear cell adenocarcinoma arising in previous abdominal scar for endometriosis surgery. *Arch Gynecol Obstet.* 2009 280: 637-641

Cite this article

Deger A, Yaylak F, Bayhan Z (2014) Endometriosis in the Surgical Scar Tissue after Caesarean Section. *Ann Clin Pathol* 2(2): 1022.