

Scar Endometriosis: A Case Series and Review of Literature

C V Lakshmi Rao¹, B Sumalatha², V Swathi³

¹Associate Professor, Department of Obstetrics and Gynaecology, Gandhi Medical College and Hospital, Secunderabad, Telangana, India,

²Assistant Professor, Department of Obstetrics and Gynaecology, Gandhi Medical College and Hospital, Secunderabad, Telangana, India,

³Post-graduate Student, Department of Obstetrics and Gynaecology, Gandhi Medical College and Hospital, Secunderabad, Telangana, India

Abstract

Endometriosis is a common and distressing gynecological problem in women of reproductive age group. Endometriosis is the presence of functioning endometrial tissue outside the uterine cavity, and may be found either inside the pelvis or outside the pelvis. It presents as red, petechial lesions, usually multiple, on the peritoneal surface of the uterus, ovaries, and fallopian tubes. The most common organ that gets involved is the ovary (almost 50% cases) followed by the pouch of Douglas and broad ligament. It can also be present on the bowel, may erode the bowel, and cause passage of blood in stools. In very rare cases, it is found in the thorax, central nervous system and urogenital tract, as also in the skin where previous surgery was undertaken (abdominal surgical scar). Scar endometriosis is rare and difficult to diagnose. Here, we are discussing the pathogenesis, diagnosis, and treatment of this condition along with a review of the literature, so that this paper will increase the awareness of this, often misdiagnosed, rare condition called scar endometriosis.

Key words: Endometriosis, Granuloma, Hemosiderin, Scar

INTRODUCTION

Endometriosis is a common and distressing health problem of women. Its exact prevalence is unknown because it can be diagnosed only after surgery either open or laparoscopy, but it is estimated to be present in 3-10% of women in the reproductive age group, and 25-35% of infertile women. It is seen in 1-2% of women undergoing sterilization or sterilization reversal, in 10% of hysterectomy surgeries, in 16-31% of laparoscopies, and in 53% of adolescents with pelvic pain severe enough to warrant surgical evaluation. Endometriosis is the most common single gynecologic diagnosis responsible for the hospitalization of women aged 15-44, accounting for over 6% of patients.

Endometriosis is the presence of functioning endometrial tissue outside the uterine cavity. It generally occurs in pelvic sites such as ovaries (almost 50%) followed by the

uterine cul-de-sac, uterosacral ligaments, posterior surfaces of uterus and broad ligament, and the remaining pelvic peritoneum, bowel, and rectovaginal septum. Extra-pelvic endometriosis can be found in unusual places such as the nervous system, thorax, urinary tract, gastrointestinal tract, and in cutaneous tissues, and its most frequent location is in the abdominal wall.^{1,2} Abdominal wall or scar endometriosis usually occurs after surgical procedures, especially after cesarean section.³ There are reports of endometriosis after tubal ligation, salpingectomy, inguinal hernia repair, ectopic pregnancy, laparoscopy, and hysterectomy.^{1,4,5} The incidence of endometriosis after cesarean section has been reported to be 0.03-0.4%.^{6,7} A rare case of cutaneous endometriosis has also been reported.⁸ Scar endometriosis patients are often referred to the general surgeons because the clinical presentation suggests a surgical cause. We report four cases of scar endometriosis, which were initially diagnosed as stitch granuloma. By presenting this paper, and conducting a review of the literature, we intend to increase the awareness of this rather, rare condition.

CASE REPORTS

Case 1

A 32-year-old female of para 4, live birth 3 (P4L3) presented with a painful lesion in the stitch line, for the last

Access this article online



www.ijss-sn.com

Month of Submission : 05-2015

Month of Peer Review : 06-2015

Month of Acceptance : 07-2015

Month of Publishing : 07-2015

Corresponding Author: Dr. C V Lakshmi Rao, Sri Sai Nivas, Plot 21, Kavadiguda, Gandhi Nagar, Secunderabad - 500 080, Telangana, India. Phone: +91-9490781919. E-mail: subbalakshmi.cv@gmail.com

2½ years. The lesion used to increase in size and become more painful during her menstruation. She had a significant history of dysmenorrhea. There was no history of bladder and bowel complaints. She had undergone laparotomy 3 years ago for rupture of the uterus, at an outside center, where rent repair of the uterus and bilateral tubectomy were done. On per abdominal examination, a painful, tender lesion of about 3 cm × 3 cm was found at the upper end of the stitch line (midline vertical), which was smooth surfaced and firm in consistency. The rest of systemic and general physical examination were essentially normal. The ultrasonography (USG) revealed a hypoechoic lesion of size 14 mm × 12 mm above the muscle at the anterior abdominal wall. This was initially suspected to be a stitch granuloma and she was given a course of routine antibiotics and anti-inflammatory agents and asked to come to the gynecologic outpatient clinic regularly, in order to enable us to observe the course of the lesion, but the lesion kept on gradually increasing in size. Fine-needle aspiration cytology (FNAC) of the above lesion showed sheets and clusters of epithelial cells appearing to form glands, degenerated cells, and hemosiderin laden macrophages suggestive of endometriosis (Figure 1).

In view of the above findings, the patient was subjected to surgery during which a mass corresponding to about 3 cm × 3 cm size, found above the rectus sheath was widely excised. The histopathological report confirmed it to be scar endometriosis (Figure 2).

Case 2

A 25-year-old para 3 (P3) female, who underwent lower segment cesarean section 3½ years back presented with a painful lesion at the stitch line (Pfannenstiel incision) for the last 2 years. The lesion used to be more painful and hyperemic during menstruation. She had undergone tubectomy 2½ years ago through the same scar but vertical in the midline (interval sterilization). On per abdominal examination a painful lesion of about 4 cm × 4 cm was found at the right side of the stitch line, which was smooth surfaced and firm in consistency. FNAC revealed hemosiderin laden macrophages and endometrial glands suggestive of endometriosis. The lesion was excised, and histopathological report confirmed it to be scar endometriosis.

Case 3

A 32-year-old woman presented to the surgery clinic with the complaints of pain and swelling on the upper part of cesarean scar for the last 2 years. She had undergone 2 cesarean deliveries in the past, 8 years and 3 years ago. Examination revealed 2 cm × 2 cm mass at the upper part of the cesarean scar. FNAC of mass showed the picture of the endometrium, and so the patient was referred to our

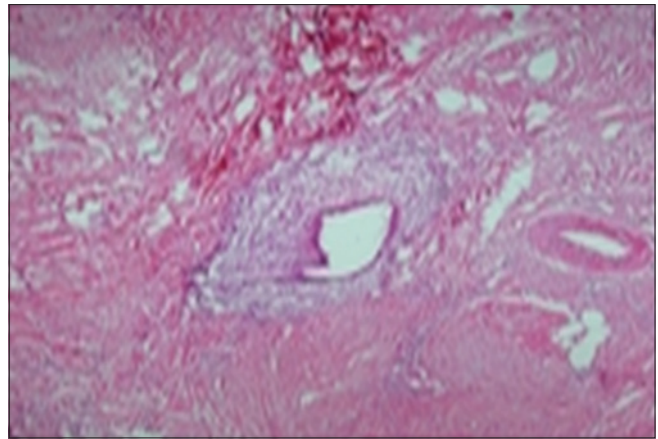


Figure 1: Fine-needle aspiration cytology of scar endometriosis-endometrial glands and stroma in the subcutaneous tissue

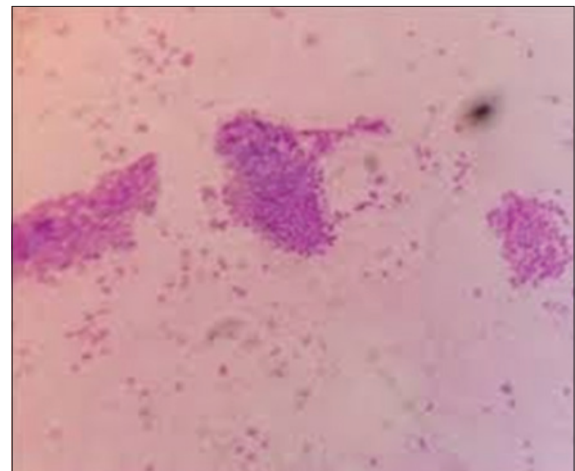


Figure 2: Histopathological exam of scar endometriosis

unit. She was started on tablet danazol but as the response was partial, she subsequently underwent a wide excision of the mass. Histopathological examination of the excised mass confirmed the diagnosis. Postoperative period was uneventful, but this patient was lost for follow-up after her discharge.

Case 4

A 33-year-old woman was seen in the surgery clinic with the complaints of swelling and pain at the upper part of cesarean scar for the last 10 years, which was initially present at the time of her menstrual cycle, but later became continuous in nature. She had one prior cesarean delivery 14 years ago, and tubal ligation 10 years ago. Examination revealed a 4 cm × 4 cm tender, subcutaneous mass in upper part of the midline vertical scar. The overlying skin was normal. As a diagnosis of stitch granuloma was made, the patient was taken up for excision of the mass under local anesthesia histopathological examination revealed it to be a case of scar endometriosis and so the patient was referred

to the gynecology outpatient department. The patient's symptoms did not subside even after excision of the mass. As surgery was recently undertaken, we prescribed tablet danazol 200 mg/3 times a day for a period of 4 months. She had no relief whatsoever and so we had to do a wide excision of the mass, and as the defect in the rectus sheath was large, it was closed by prosthetic mesh. The postoperative period was uneventful.

Except one, all the three patients were followed up for a period of 1-5 years following the operation with no signs of recurrence. All patients were seen, and diagnosed between June 2009 and August 2011.

DISCUSSION

Scar endometriosis usually follows previous abdominal surgery especially early hysterotomy and cesarean section. Miraglia *et al.* who analyzed 30 years of incisional endometriosis after cesarean section found the incidence of scar endometriosis to be 0.08%.⁴ Ectopic pregnancy, salpingostomy, puerperal sterilization, laparoscopy, appendectomy, episiotomy, vaginal hysterectomy, and hernia repair are other surgical factors for scar endometriosis.⁵⁻⁷ The reported incidence after mid-trimester abortion is about 1%, as also after cesarean section, ranging from 0.03% to 0.45%.⁸ The frequency of scar endometriosis has increased in the recent past because of the increasing numbers of cesarean sections and laparoscopies being performed.⁹ Direct mechanical implantation seems to be the most plausible theory for explaining scar endometriosis. During cesarean section, endometrial tissue might be seeded into the wound and under the same hormonal influences, these cells proliferate.¹⁰ The endometrial tissue may have certain abilities that make implantation and transplantation possible during pregnancy. According to this hypothesis, the strongest risk factor for development of scar endometriosis is early hysterotomy for mid-trimester abortions.¹¹ de Oliveira *et al.* demonstrated that heavy menstrual blood flow and alcohol consumption were positively related to scar endometriosis, and conversely, high parity may be a protecting factor.¹² However, direct implantation of endometrial tissue, cannot explain all cases. There are few cases of primary cutaneous endometriosis without prior surgery, such as at the vulva, perineum, groin, umbilicus, and extremities,¹³ as well as nasolacrimal localizations.¹⁴ All four patients of ours presented after an operation on the uterus, three with cesarean sections and one with a laparotomy for rupture of the uterus.

Clinical diagnosis can be made by careful history and physical examination. The patients present with a mass near the previous surgical scars, accompanied by increasing colicky like pain during menstruation.¹⁵ Usually there is a

history of gynecological or non-gynecological abdominal operation. In these patients, correct diagnosis depends on careful examination, right questioning and obviously taking endometriosis into consideration. Furthermore, scar endometriosis is a rare entity, and the patients presented with a wide range of duration of cyclical pain from 2½ years to 10 years of the last cesarean section operation. Three patients presented after cesarean section whereas one presented after laparotomy for uterine rupture. The usual presenting symptoms of cyclical pain and increase in the size of mass may be due to hormonal influences that cause changes in size, cutaneous bleeding, and bruising.¹⁶ Our patients also presented with swelling at the scar site and periodic pain at the site, which became continuous later on.

When a proper pre-diagnosis cannot be achieved, scar endometriosis can be easily mistaken for other surgical conditions such as hernia, hematoma, neuroma, suture granuloma, lipoma, abscess, sebaceous cyst, and neoplastic tissue or even metastatic carcinoma,¹⁷ and patients reach the general surgeon first. Often the diagnosis of endometriosis is not suggested until after histology has been performed. Correct preoperative diagnosis is achieved in only 20-50% of these patients.¹⁸ The worth of various methods of investigation, such as USG examination, computed tomography, magnetic resonance imaging (MRI), Doppler sonography or fine-needle biopsy in the diagnosis of scar endometriosis is not clear. Imaging procedures help, rather than confirm, in obtaining a differential diagnosis. USG is the best and most commonly used procedure for abdominal masses, given its practicality and low cost. The mass may appear as a hypoechoic and heterogeneous mass with messy internal echoes. On computed tomographic scanning, the endometrioma (endometriotic mass in subcutaneous tissues) may appear as a circumscribed solid or mixed mass, enhanced by contrast and shows hemorrhage in the lesion. Kinkel *et al.* revealed the sensitivity and specificity of MRI in helping in the diagnosis of endometriomas to be 90-92% and 91-98%.¹⁹ MRI is also a useful modality for pre-surgical mapping of deep pelvic endometriosis. Infiltration of the abdominal wall and subcutaneous tissues is much better assessed by MRI.²⁰ Tomographic scans and MRI are more useful in demonstrating incisional hernias and differential diagnosis.²¹ FNAC was reported in some studies confirming the diagnosis.²² However, FNAC cytology is a liable method to make the diagnosis of scars, and surgeons must be aware of some diagnoses such as inguinal hernia and re-implantation of potential malignancies during the process. Our opinion of FNAC is that, it is accurate only in cases of large masses, doubtful diagnosis, and atypical clinical presentations.

Histology is the hallmark of diagnosis. It is satisfied if endometrial glands, stroma, and hemosiderin pigment are seen.²³ In general, diagnosis is easy with a microscopic

examination of a standard hematoxylin and eosin-stained slide. Furthermore, the cytologist's experience must be the important point, to clarify diagnosis, and to exclude malignancy.²⁴

Local wide excision, with at least 1 cm of margin, is the accurate treatment of choice for scar endometriosis and also for recurrent lesions. Recurrence of the scar is rare, with very few cases having been reported. As expected, the larger and lesions deeper to the muscle or the fasciae are more difficult to excise completely. In large lesions, complete excision of the lesion may entail for closure after resection, the placement of a synthetic mesh, or transfer of tissue.⁵ Medical therapy with danazol, progesterone, Gn-Rh agonists, produces only partial recovery, and mostly recurrence occurs after cessation of the treatment with extreme side effects.²⁵ The incidence of concomitant pelvic endometriosis with scar endometriosis has been reported to be ranging from 14.2% to 26%.²⁶ Ideally, all patients must be examined for concomitant pelvic endometriosis and at this point, postoperative follow-up should be done for a couple of years and the patient should be under the observation of the gynecologist. Hence, good technique and good care, during cesarean section, may help in preventing endometriosis. All the four patients of ours, who presented to us, were within a gap range of 2 years to 10 years, since the last surgery.

CONCLUSION

We would like to say that one should have a high index of suspicion of scar endometriosis, whenever a woman presents with a painful swelling in the abdominal scar, especially with a history of previous gynecological or obstetric surgery. This condition can be confused with other surgical conditions. Efforts should be made to make a preoperative diagnosis with the help of imaging techniques and FNAC. Medical treatment is not very helpful. Wide excision is the treatment of choice. The patients should be followed up for recurrence.

REFERENCES

1. Wheeler JM. Epidemiology and prevalence of endometriosis. *Infertil Reprod Med Clin North Am* 1992;3:545-8.

2. Jubanyik KJ, Comite F. Extrapelvic endometriosis. *Obstet Gynecol Clin North Am* 1997;24:411-40.
3. Steck WD, Helwig EB. Cutaneous endometriosis. *Clin Obstet Gynecol* 1966;9:373-83.
4. Miraglia S, Mishell DR, Ballard CA. Incisional endometriomas after caesarean section, a case series. *J Reprod Med Obstet Gynaecol* 2007;52:630-4.
5. Patterson GK, Winburn GB. Abdominal wall endometriomas: Report of eight cases. *Am J Surg* 1999;65:36-9.
6. Chatterjee SK. Scar endometriosis: A clinico-pathological study of 17 cases. *J Obstet Gynaecol* 1980;56:81-4.
7. Koger KE, Shatney CH, Hodge K, McClenathan JH. Surgical scar endometrioma. *Surg Gynecol Obstet* 1993;177:243-6.
8. Wolf Y, Haddad R, Werbin N, Skornick Y, Kaplan O. Endometriosis in abdominal scars: A diagnostic pitfall. *Am Surg* 1996;62:1042-4.
9. Aydin O. Scar endometriosis - A gynaecologic pathology often presented to the general surgeon rather than the gynaecologist: Report of two cases. *Langenbecks Arch Surg* 2007;392:105-9.
10. Gunes M, Kayikcioglu F, Ozturkoglu E, Haberal A. Incisional endometriosis after cesarean section, episiotomy and other gynecologic procedures. *J Obstet Gynaecol Res* 2005;31:471-5.
11. Scott RB, Te Linde RW. Clinical external endometriosis; probable viability of menstrually shed fragments of endometrium. *Obstet Gynecol* 1954;4:502-10.
12. de Oliveira MA, de Leon AC, Freire EC, de Oliveira HC. Risk factors for abdominal scar endometriosis after obstetric hysterotomies: A case-control study. *Acta Obstet Gynecol Scand* 2007;86:73-80.
13. Ideyi SC, Schein M, Niazi M, Gerst PH. Spontaneous endometriosis of the abdominal wall. *Dig Surg* 2003;20:246-8.
14. Oner A, Karakucuk S, Serin S. Nasolacrimal endometriosis. A case report. *Ophthalmic Res* 2006;38:313-4.
15. Roncoroni L, Costi R, Violi V, Nunziata R. Endometriosis on laparotomy scar. A three-case report. *Arch Gynecol Obstet* 2001;265:165-7.
16. Seltzer VL, Benjamin F, Deutsch S. Perimenopausal bleeding patterns and pathologic findings. *J Am Med Womens Assoc* 1990;45:132-4.
17. Blanco RG, Parithivel VS, Shah AK, Gumbs MA, Scheinz M, Gerst PH. Abdominal wall endometriomas. *Am J Surg* 2003;185:596-8.
18. Sevdal AV, Sickel SJ, Warner EA, Sax HC. Extrapelvic endometriosis: Diagnosis and treatment. *Am J Surg* 1993;177:243-6.
19. Kinkel K, Frei KA, Balleyguier C, Chapron C. Diagnosis of endometriosis with imaging: A review. *Eur Radiol* 2006;16:285-98.
20. Balleyguier C, Chapron C, Chopin N, H el on O, Menu Y. Abdominal wall and surgical scar endometriosis: Results of magnetic resonance imaging. *Gynecol Obstet Invest* 2003;55:220-4.
21. Yu CY, Perez-Reyes M, Brown JJ, Borrello JA. MR appearance of umbilical endometriosis. *J Comput Assist Tomogr* 1994;18:269-71.
22. Pathan SK, Kapila K, Haji BE, Mallik MK, Al-Ansary TA, George SS, et al. Cytomorphological spectrum in scar endometriosis: A study of eight cases. *Cytopathology* 2005;16:94-9.
23. Crum CP. The female genital tract. In: Crotran RS, Kumar V, Collins V, editors. *Robbin's Pathologic Basis of Disease*. 6th ed. Philadelphia, Pa, USA: Saunders; 1999.
24. Meti S, Weiner JJ. Scar endometriosis: A diagnostic dilemma. *Eur Clin Obstet Gynaecol* 2006;2:62-4.
25. Rivlin ME, Das SK, Patel RB, Meeks GR. Leuprolide acetate in the management of cesarean scar endometriosis. *Obstet Gynecol* 1995;85:838-9.
26. Rani PR, Soundararaghavan S, Rajaram P. Endometriosis in abdominal scars - review of 27 cases. *Int J Gynaecol Obstet* 1991;36:215-8.

How to cite this article: Rao CV, Sumalatha B, Swathi V. Scar Endometriosis: A Case Series and Review of Literature. *Int J Sci Stud* 2015;3(4):180-183.

Source of Support: Nil, **Conflict of Interest:** None declared.