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## Post-surgical endometriosis with varying scenarios: A retrospective study

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### Abstract

Endometriosis is ectopic presence of endometrial tissue outside the uterus. Patients who were admitted in the department of Obstetrics and Gynecology PGIMS Rohtak, with surgical site endometriosis from Jan 2015 to Dec 2019, were analysed in detail. Challenges faced during management, histopathological findings, complication and recurrence, if any, were noted. All the patients presented with a periodic painful swelling. Location varied according to previous surgical sites- abdominal swelling with history of cesarean section or laprotomy and perineal with history of vaginal delivery with episiotomy. Diagnosis was made by clinical examination supplemented by ultrasonography. Treatment was done by wide surgical excision, taking care to include all the endometriotic tissue and confirmed by histopathology. No recurrence was noted in patients after resuming their normal menstruation. It is very important to detect this condition, as early detection gives us scope for timely intervention and better management.

**Keywords:** Endometriosis, cesarean, surgical excision, scar

### Introduction

Endometriosis is a condition defined as the ectopic presence of endometrial tissue (glands and stroma) outside the uterus. It is a common benign gynaecological condition and predominantly affects women of reproductive age group. Pelvic viscera and peritoneum are the most frequent documented sites of implantation. Its appearance varies from few minimal lesions on otherwise intact pelvic organs, to massive ovarian endometriotic cysts and extensive adhesions involving bowel, bladder, and ureter <sup>[1]</sup>. Endometriosis can only be diagnosed after surgery either open or laproscopic, so its exact prevalence is unknown. It is seen in 3-10% of young fertile women. It has also been reported in extrapelvic sites including almost all organs and systems like central nervous system, nose, breast, lung, spleen, gastro-intestinal tract, kidney, abdominal wall and perineum, but scar endometriosis is very rare <sup>[2]</sup>. Its incidence in post-caesarean and post-hysterotomy scar tissue is approximately 0.03-0.4% and 1.08-2% respectively <sup>[3]</sup>.

Patients of scar endometriosis are often either referred or present directly to the general surgeons because of the clinical presentation which suggests a surgical cause <sup>[4]</sup>. Scar tissue endometriosis may present as a discrete painful mass and can mimic a variety of surgical conditions like inguinal hernia, incisional hernia, abdominal wall tumor, stitch granulomas, etc. <sup>[5]</sup> So, it is very important for us to recognize this treatable condition to avoid potential clinical pitfall in the diagnosis.

As there is rise in the incidence of caesarean sections and gynaecological surgeries, we are encountering this rare condition, frequently. After conducting a retrospective study, here we are presenting this paper to increase the awareness among general surgeons and gynaecologist regarding varying presentation of scar endometriosis, its diagnosis and challenges surgeon can face during management.

### Objectives

To evaluate the different surgical site endometriosis and challenges faced in their management.

### Material and Methods

This retrospective case study was done on patients who were admitted and managed from January 2015 to December 2019, with diagnosis of surgical site endometriosis, in the Department of Obstetrics and Gynaecology, PGIMS Rohtak. Parameters noted were age of

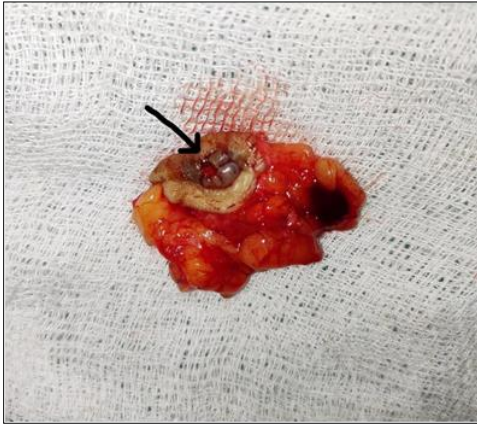
patient, presenting symptoms, site, size of endometriosis, time duration between surgery and onset of symptoms and other risk factors, radiological, surgical and histopathological findings, line of management, complication in post-operative period and

recurrence, if any.

Routine hematological and biochemical examinations were done following medical history and physical examination.

**Table 1:** Case summaries

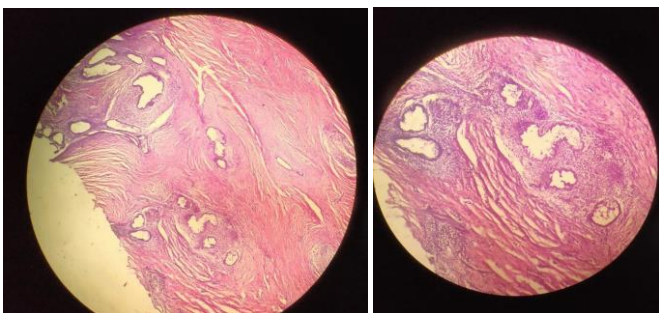
Case No.	Age (in years)	Obstetric score	Surgery-Presentation interval	Presentation	Examination findings	Initial diagnosis	FNAC	USG/MRI	Management	Surgical findings	HPE	Complication	Recurrent disease
1	32	P2L2A1	8 years (LSCS)	Swelling at anterior abdominal wall	4x3 cm firm nodule at right margin of scar of Cesarean section	? Scar endometriosis	Not done	About 4x3x4 cm hypoechoic mass right side of scar	Wide surgical excision	4.5x3x4 cm firm nodule extending up to superficial part of rectus sheath	Diagnosis confirmed	No	No
2	36	P3L2A1	10 years (laparotomy f/b hysterotomy)	Pain & swelling in suprapubic region during menses	Vertical scar + 3x2 cm tender mass above public symphysis	Scar endometriosis	Endometrial glandular cells with hemosiderin laden macrophages	2 Hypoechoic lesion seen in s/c plane & within left rectus muscle	Wide surgical excision	4x5 cm mass adherent to rectus sheath	Diagnosis confirmed	No	No
3	28	P3L3	6 years (vaginal delivery)	Swelling & cyclical pain in perineal area since 1 year	4x3 cm nodule in middle of previous episiotomy scar	Endometriotic nodule	Not done	5x4.5 cm hypoechoic lesion right side in close relation with anus and rectum	Wide excision with sphincteroplasty Injleuprolide acetate 3.75 gm s/c single dose	Nodule around 6x5 cm attached to external anal sphincter infiltrating upto levatorani muscle	Diagnosis confirmed	After 20 days patient came with wound infection	No
4	25	P1L1	2 years (LSCS)	Pain & swelling in lower side of stitch line	3x3 cm tender mass in suprapubic region at stitch line	Stitch abscess	Few degenerated inflammatory cells	15x14x12 mm hypoechoic lesion at scar site	Excision of scar tissue	2.5x3 cm nodule	Diagnosis confirmed	No	No
5	26	P1L1	2.5 years (LSCS)	Swelling and cyclical pain with blood like discharge from right extent of stitch line	1x1 cm firm nodule with pint of discharge at right margin of transverse scar of LSCS	Scar endometriosis	Not done	1.5x1.5 cm hypoechoic lesion on right extent of scar	Wide surgical excision	2x2 cm nodule	Diagnosis confirmed	No	No
6	26	P1L1	5 years (LSCS)	Swelling and cyclical pain near stitch line	3x3 cm mass near stitch line	Scar endometriosis	Not done	3.5x3 cm hypoechoic lesion in subcutaneous plane involving sneath	Wide surgical excision	4x4 cm endometriotic tissue involving sheath	Diagnosis confirmed	No	No
7	35	P3L3	6 years (LSCS)	Pain & swelling in middle of stitch line	2x2 cm nodule in stitch line	Scar endometriosis	Not done	3x2 cm hypoechoic lesion at scar site	Wide local excision	3x2 cm scar endometriotic tissue	Diagnosis confirmed	No	No
8	22	P3L3	2 years (LSCS)	Pain & swelling in stitch line	1.5x1.5 cm nodule in stitch line	Scar endometriosis Scar	Not done	1.5x1.5 cm hypoechoic lesion at scar site	Wide local excision	1.5x1.5 cm nodule removed	Diagnosis confirmed	No	No
9	30	P2L2	5 years (LSCS)	Pain & cyclic swelling in stitch line	4x4 cm nodule on right side and 1x1 cm nodule on left side of stitch line	Scar endometriosis	Not done	Two hypoechoic lesion 4x4 cm on right side and 1x2 cm on left side of stitch line	Wide local excision	4x3 cm nodule on right side and 1x2 cm nodule on left side	Diagnosis confirmed	No	No
10	10	28 P11L1	1 and half year (LSCS)	Pain & cyclic swelling at suprapubic region	No definite nodule palpable because of obesity	Scar endometriosis	Not done	Mixed echoic solid-cystic lesion with ill-defined border of 3.3x2.4 cm in suprapubic region in midline abutting muscle.	Wide local excision	Multiple endometriotic nodule with local subcutaneous spread in abdominal wall	Diagnosis confirmed	Wound	No sepsis on Day 5



**Fig 1:** Specimen of scar endometriotic tissue after wide surgical removal. You can notice bleeding point in lesion (arrow mark)



**Fig 2:** Per-Op endometriotic nodule (bluish-purple with arrow mark) peeping out and in close relation with anus in patient with perineal endometriosis



(a) Low power field (b) at high power field ( $\times 20$ )

**Fig 3:** H&E stained section showing endometrial glands with fibrovascular stroma in the scar tissue at (a) low power field, (b) at high power field ( $\times 20$ )

## Results

Main complaint of our cases on admission was a palpable mass on incision site and cyclic pain. One patient also presented with history of dark colored bloody discharge from complaint site. Patients age ranged from 25-36 years. Location varied according to surgical sites-abdominal swelling with history of either caesarean section, hysterotomy or laparotomy. Perineal swelling was associated with history of vaginal delivery with episiotomy. Wide range of time interval between surgery and clinical presentation from one and half to ten years of the last operation and it had been noted that more the time gap of presentation of symptoms from last operation, larger the size and deeper was the infiltration of mass.

Initial diagnosis of scar endometriosis was made by clinical examination supplemented by USG. In two cases FNAC had also been done (patients already had report from outside). Treatment in all the cases was done by wide surgical excision, taking care to include all the endometriotic tissue. In one case (perineal endometriosis) single shot of Injection Leuprolide acetate 3.75 gm S/C was also given confirmation of all cases was done by histopathology, in which endometrial gland with stroma and hemosiderin pigment can be seen. Immediate post-op period was uneventful. Patient with perineal endometriosis was presented to hospital after discharge with infected wound on day 20, which was managed conservatively. And one more patient with abdominal wall endometriosis had wound sepsis on post-operative day 5, which can be attributed to obesity and extensive subcutaneous tissue involvement in that case. No recurrence were noted on follow-up after 3 months of resumption of menstruation, in any case.

## Discussion

Scar endometriosis most commonly occurs after pelvic surgeries. Patients may be asymptomatic. The pathognomonic features are a painful nodule at incision site and cyclical pain in a reproductive age woman with a history of gynecological or obstetrical surgery. The intensity of pain and size of nodule vary with menstrual cycle. Most of these patients may have concomitant pelvic endometriosis [6].

The frequency of scar endometriosis has increased in the recent past because of the increasing numbers of cesarean sections and laparoscopies being performed [7]. Out of two main theories behind the pathogenesis of scar endometriosis, mechanical implantation at the time of uterine surgery, followed by proliferation of seeded tissue at new site under same hormonal influences, is the most plausible cause [8]. Metaplasia theory postulates differentiation of multipotent mesenchymal cells to endometrial tissue in their site after puberty and show pathophysiological changes as a response to hormonal stimuli. Major factor responsible for endometrioma development is iatrogenic inoculation of endometrial tissue into the incision site [9].

High index of clinical suspicion is needed to diagnose this condition. This require clinical differentiation from other surgical conditions such as lipoma, incisional hernia, abscess, seroma, keloid, neoplastic tissue, or even metastatic carcinoma. Malignancy should be suspected in fast growing and large endometrioma or if there is frequent recurrence [10].

Imaging procedures help, rather than confirm, in obtaining a differential diagnosis and can facilitate total surgical excision. USG is the best and most commonly used procedure for abdominal masses. The mass may appear as a solid, hypoechoic and heterogeneous mass with different internal echoes with speculated margins, infiltrating the surrounding tissue. FNAC is also a method to make the diagnosis of scar endometriosis. Histology is the Gold standard for definitive diagnosis. It is satisfactory when endometrial glands, stroma, and hemosiderin pigment are seen [11].

Primary medical therapy with danazol, progesterone, GnRH agonists provide only partial relief and does not cure the disease, hence recurrence occurs after cessation of the treatment with extreme side effects [12]. The treatment of choice remains the wide local excision with histologically proven free margins, providing both diagnostic and therapeutic benefit.

## Conclusion

Scar endometriosis is a rare clinical condition but its incidence has increased in the recent past because of increasing number of

caesarean sections. Diagnosis can be made by high index of suspicion in reproductive age women having localised cyclical symptoms in a scar, following a previous obstetric or gynecological procedure. Imaging methods like doppler USG, CT and MRI can be used for differential diagnosis. Medical treatment is helpful in selected cases but wide surgical excision is treatment of choice to prevent future recurrence. Early detection gives us scope for timely intervention and better management.

### Conflicts of Interest

The authors have none to declare

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