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## Research Article

# Study of preoperative GnRh agonist in cutaneous scar endometriosis

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### ABSTRACT

**Background:** Cutaneous scar endometriosis is an uncommon pathology, it is rare and difficult to diagnose, mostly follows obstetrical and gynaecological surgeries. Surgical wide excision is the mainstay of treatment. The objective of this study was to evaluate efficacy of preoperative GnRh agonist in scar endometriosis.

**Methods:** This is prospective randomized case control study performed on all cutaneous scar endometriosis cases reporting to our institute as well as consultants from Dhule obstetrics and gynaecology society. All cases were operated and follow up in our institute by same surgeon.

**Results:** Surgical excision accompanied by preoperative GnRh agonist therapy is helpful for easy excision and reduce recurrence of scar endometriosis.

**Conclusions:** Abdominal scar endometriosis is rare gynecological pathology, should be suspected in any women of child bearing age group complaining of cyclical painful nodule in scar following a previous obstetric and gynaecological procedure.

**Keywords:** Cutaneous scar endometriosis, GnRh agonist

### INTRODUCTION

Endometriosis is defined as a pathologic condition in which the endometrium, consisting of endometrial glands and stroma, is found in locations outside the endometrial lining.<sup>1,4</sup> The commonest location of endometriosis is in the pelvis. However, endometriosis has been described in extra pelvic sites, including anterior abdominal wall, diaphragm, omentum, small intestine, appendix, lung, urinary tract, musculoskeletal, and neural systems.<sup>2,3</sup> Cutaneous endometriosis mainly exists in abdominal scars following obstetric and gynaecologic surgery.<sup>5</sup> Endometriosis can sometimes occur in a previous surgical scar. Scar endometriosis is rare and difficult to diagnose. It mostly follows obstetrical and gynaecological surgeries.<sup>5-7</sup> This condition is often confused with other surgical conditions. Cutaneous scar endometriosis following caesarean section is the most frequent cutaneous form, with an incidence of 0.03-

0.4%.<sup>5</sup> Surgical excision is the main stay of treatment. Difficult excision and recurrence is known in these cases.

The objective of this study was to highlight the role of preoperative GnRh agonist in scar endometriosis. And to reduce intraoperative complications and recurrence rate of disease. To reduce the morbidity and to identify other advantages if any.

### METHODS

Prospective case control study. Abdominal scar endometriosis cases reporting to our institute as well as Dhule obstetrics and gynaecology society members since April 2013 to April 2016. All cases were operated in our institute after proper counseling and required consent. Follow up to our institute or respective consultant referring cases in view of post-operative morbidity and recurrence.

**Inclusion criteria**

- All diagnosed cases of scar endometriosis following obstetrics and gynaecology operative procedure reporting to our institute
- Cases from Dhule obstetrics and gynaecology society members.

**Exclusion criteria**

- Scar endometriosis cases following non obstetrics and gynaecology operative
- Patient not willing to give consent for study
- Non abdominal cutaneous scar endometriosis.

**RESULTS**

There were 16 women who were treated during the period of study (Table 1). They all presented with painful lump in abdominal scar. Typically cyclic pain was present in 8 (50%) cases. Majority cases followed by obstetric and gynaecological procedure such as caesarean section (81.2%), laprotomy for rupture uterus (12.5%) and myomectomy (6.25%). The mean age was 29.2 years (range 22-37 years). The average nodular size was 3.6 cm (range 2-7 cm) which were present (70%) at the scar. Diagnoses were made in 62.5% cases by FNAC in which 37.5% cases additionally confirm by ultrasonography. Investigations done including complete blood count, urea, electrolytes.

**Table 1: Clinical features, diagnostic methods, treatment and follow up.**

Age	Previous surgery	Symptoms	Investigation for diagnosis	Node size	Pre-operative GnRH given yes/no	Intraop dissection	Recurrence yes/no
26	Caesarean section	Painful lump at scar	FNAC	3 cm	Yes	Uneventful	No
28	Caesarean section	Painful lump at scar	FNAC	2 cm	No	Uneventful	No
22	Caesarean section	Painful lump with cyclical pain	FNAC and USG	3 cm	Yes	Uneventful	No
29	Myome-ctomy	Painful lump with cyclical pain	FNAC and USG	4 cm	Yes	Uneventful	No
32	Caesarean section	Painful lump	FNAC and USG	4 cm	No	Difficult required	No
35	Laparotomy for rupture uterus	Painful lump with cyclical pain	USG	5 cm	Yes	Uneventful	No
30	Caesarean section	Painful tender lump	USG	2 cm	No	Uneventful	No
27	Caesarean section	Painful lump	FNAC	3 cm	No	Difficult	No
29	Caesarean section	Painful lump	FNAC	3 cm	Yes	Uneventful	No
37	Caesarean section	Painful lump with cyclical pain	USG	6 cm	No	Difficult dissection-mesh required	1cm painful lesion noted after 6 month
31	Laparotomy for uterine perforation	lump with cyclical pain	USG	7 cm	Yes	Uneventful	No
26	Caesarean section	Painful lump	FNAC and USG	3 cm	No	Uneventful	No
32	Caesarean section	Painful lump with cyclical pain	FNAC and USG	2 cm	Yes	Uneventful	No
28	Caesarean section	lump with cyclical pain	FNAC and USG	3 cm	No	Uneventful	No
24	Caesarean section	Painful lump	USG	4 cm	No	Difficulty in dissection	No
32	Caesarean section	Painful lump with cyclical pain	USG	4 cm	Yes	Uneventful	No

After explaining role of preoperative GnRh agonist choice is given to all diagnosed cases. Eight cases (50%) choose to go with preoperative single dose of GnRh agonist 3.75 mg intramuscularly on first day of menses. All cases were operated by same surgeon at our institute. Out of 8 cases in control group surgeon felt difficulty in dissection of 3 cases (37.5%) in which 1 case require synthetic mesh for rectus sheath repair. In study group of 8 cases surgeon felt easy dissection, less requirement of quarterly for haemostasis.

All the patients were followed up to varying period of months (4-10 month). During this period of follow-up there was no untoward sequel in study group compare to one case of recurrence in control group.

## DISCUSSION

Endometriosis was described first time by Rockitansky in and first case of scar endometriosis was reported by Meyer.<sup>7,8</sup> It should be consider when a nodule with or without cyclic pain appears in scar following obstetrics or gynaecological operative procedure. In this study the average age at presentation was 30 years with support the literature.<sup>8</sup> The literature reports that time of occurrence of lesions varies from months to years after operative procedures in different cases.<sup>9</sup>

Two theories metastatic theories and metaplastic theories have been proposed regaining its pathogenesis. Clinical diagnosis is usually made by proper history taking and noting its characteristic features like site of nodule, cyclical pain and enlargement. Various differential diagnosis like stitch granuloma, incisional hernia, desmoids tumor and abscess should be thought of.<sup>10,11</sup>

Ultrasonography is the best and most commonly used investigation for abdominal lumps. Scar endometriotic nodule may appear hypoechoic and heterogeneous with internal echoes.<sup>12</sup> MRI is also helpful modality for pre-surgical mapping of deep pelvic endometriosis. FNAC (fine needle aspiration cytology) was reported in some studies for confirmation of diagnosis, but as per our opinion it should be followed by ultrasonography.<sup>13</sup> Role of FNAC should be restricted for large lesions.

Local wide excision is treatment of choice. Literature shows that larger and deeper lesions are more difficult to excise completely, may require a synthetic mesh for closure. The incidence of concomitant pelvic endometriosis with scar endometriosis have been reported to be from 14.3% to 26%.<sup>4,14</sup>

Although a rare event, malignant transformation of cutaneous scar endometriosis is a possibility. Therefore wide excision is considered as treatment of choice even for recurrent lesions and recurrence is known in patient with known history of endometriosis.<sup>2</sup> That lead us to study measures for proper wide surgical excision and to avoid recurrence.

In literature the use of progesterone, contraceptive pill and danazol has been reported as ineffective. Role of GnRh (gonadotropin) agonist was proposed by Rivlin et al.<sup>15</sup>

GnRh agonist work by producing a profound suppression of gonado-tropin secretion by the pituitary, resulting in a hypoestrogenic state and subsequent diminution of endometriosis lesions. The GnRh agonists on the market have been shown to work quite well in reducing all pain symptoms associated with endometriosis, including dysmenorrhea, dyspareunia, and noncyclic pelvic pain. Conflicting data exist regarding the role of GnRH agonists in the treatment of endometriomas, but the bulk of the evidence suggests a low degree of efficacy. GnRh agonists are often initiated with the onset of menses. No studies have yet done to see the efficacy of GnRh agonist on scar endometriosis. In our study we tried to use advantage of mechanism of action of GnRh agonist to make ease in surgeries for scar endometriosis, to avoid recurrences and may prove beneficial for concomitant pelvic endometriosis.

## CONCLUSION

Abdominal scar endometriosis is rare gynaecological pathology, should be suspected in any women of child bearing age group complaining of cyclical painful nodule in scar following a previous obstetric and gynaecological procedure.

The study supports that scar endometriosis may result of transplantation of endometrial tissue during procedure.

Preoperative diagnosis is feasible with fine needle aspiration cytology (FNAC) as it provides accurate diagnosis. Ultrasonography with colour doppler is equally helpful to diagnose and identify the location and extent of lesion.

Exploration with wide excision remains the treatment of choice for abdominal scar endometriosis. However preoperative GnRh agonist therapy is helpful for easy excision of scar endometriosis and to prevent recurrence of disease.

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