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General Surgery

SCAR ENDOMETRIOSIS: A DIAGNOSTIC DILEMMA IN GENERAL SURGERY

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ABSTRACT Scar Endometriosis is an extremely rare type of extra-pelvic endometriosis. Pelvic surgeries such as abdominal hysterectomy and caesarean section may result with endometriosis in the scar tissue. General surgeons encounter this condition as a painful lump in the abdomen and is commonly under-appreciated or misdiagnosed. It poses a diagnostic dilemma and is mostly confused with other surgical conditions and diagnosis is frequently made following histopathological examination which necessitates an enormous degree of clinical suspicion. We report a case of 32 year old woman with abdominal wall endometriosis in surgical scar tissue 7 years after her last Lower segment caesarean section. She was treated with excision and her post-operative course was uneventful. This report discusses and evaluates the incidence, pathophysiology, course, diagnosis, treatment and prevention of this debilitating, frequently missed entity in general surgery.

KEYWORDS : : Painful scar, Incisional endometriosis, Scar endometriosis, Abdominal wall endometriosis, Cutaneous endometriosis

INTRODUCTION- Endometriosis , first described by Rokitansky in 1860 is the presence and proliferation of functioning endometrium – like stroma and glands outside the uterine cavity (1). It affects an estimated 89 million women of reproductive age worldwide , often causing infertility, with Pelvis being the most frequent location (2). Endometriosis has been reported on the peritoneal and serosal surfaces of intra-pelvic organs such as ovaries , fallopian tubes , retro-vaginal septum . In addition , extra-pelvic endometriosis has been reported in any region of body including bowel , bladder , lungs , pleura , kindeys , extremities ,perineum , umbilicus , omentum , lymph nodes and abdominal wall (3). 5 % of all cases of endometriosis are seen in the intestinal tract , which is the most common site for extra-pelvic endometriosis (2) .

Extra-pelvic endometriosis may be seen in the surgical scar area , more commonly in the abdominal skin and the subcutaneous tissues compared to muscles and fascia(4). It is most commonly observed after obstetric and gynaecological surgeries that involve endometrial tissue such as caesarean section, episiotomy for a normal childbirth, hysterectomy or surgery for ectopic pregnancy . Incisional / Scar endometriosis has a very rare incidence (< 1 % of all cases of extra-pelvic endometriosis) (1) .This entity can result in unnecessary procedures, delayed diagnosis or misdiagnosis and can cause emotional and physical distress to patient. This article describes a case of Scar endometriosis and reviews literature which helps elucidate signs and symptoms that may prompt early diagnosis and management

CASE REPORT- A 32 year old Indian woman presented to the General Surgery OPD with a painful Abdominal Lump on the lateral aspect of a Pfennansteil incision scar in the right lower quadrant of the abdomen for the past 6 months. The patient did not complain of cycle-related symptoms of the lump in menstruation period and she did not have any symptom suggestive of pelvic endometriosis also. She was an otherwise healthy woman with no significant medical history. Her surgical history included 2 previous Lower segment Caesarean sections , the first one 11 years back and the last one 7 years previously. Abdominal examination revealed a lump 5x4 cm on the Right lateral aspect of pfennansteil scar site , firm in consistency and tender with no obvious cough impulse .

Ultrasonography showed an Ill-defined hypoechoic lesion 5x4x3 cm arising from intra-muscular compartment breaching the external oblique aponeurosis (EOA) and extending into subcutaneous plane displacing the subcutaneous fat and spreading into the skin scar (Fig 1)

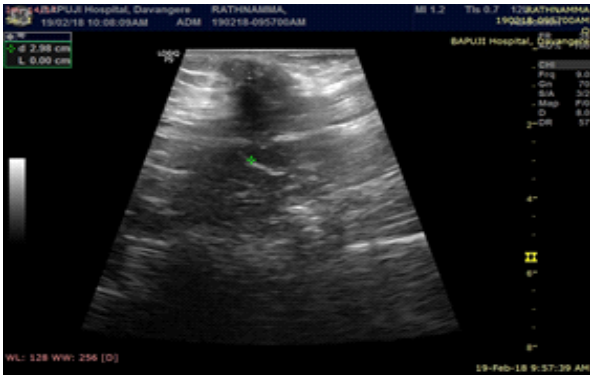

Fig1- USG showing ill-defined hypoechoic lesion

The preliminary surgical differential diagnoses considered were Irreducible Incisional Hernia , Desmoid Tumor and Granuloma of the suture.The patient was posted for exploration. Intra-operatively , a firm abdominal wall lump of size 5x4x3 cm was identified to be adherent to the external oblique aponeurosis and extending to the abdominal wall muscles below and subcutaneous plane above. Wide Local Excision of the lump with clear margins was performed with a strong suspicion of Desmoid tumor. Post-operatively patient improved symptomatically .
The Gross (macroscopic) view of lump revealed fibrotic , cystic mass with focal haemorrhage in the lesion (Fig 2). Microscopically , section showed fibrous tissue with few dilated endometrial glands lined by columnar cells surrounded by stroma composed of spindle cells with focal hemosiderin pigment (fig 3a & b) consistent with diagnosis of Endometriosis.

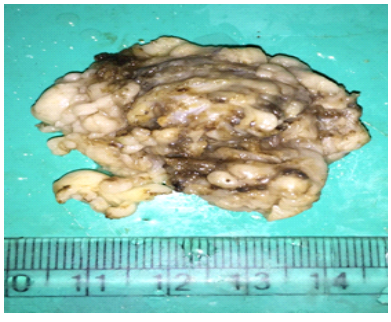

Fig2- Gross (macroscopic) view of lump

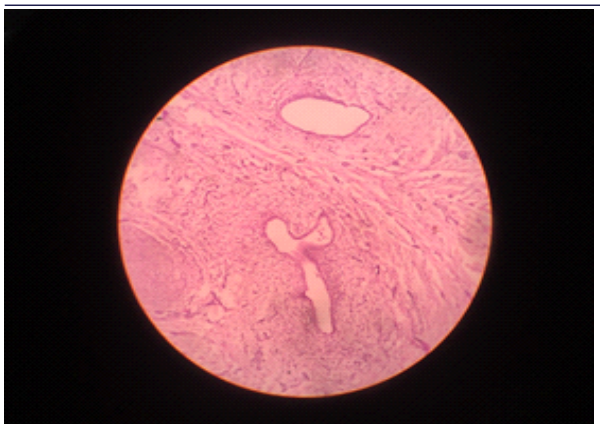

Fig3(a)- 10x magnification showing endometrial glands

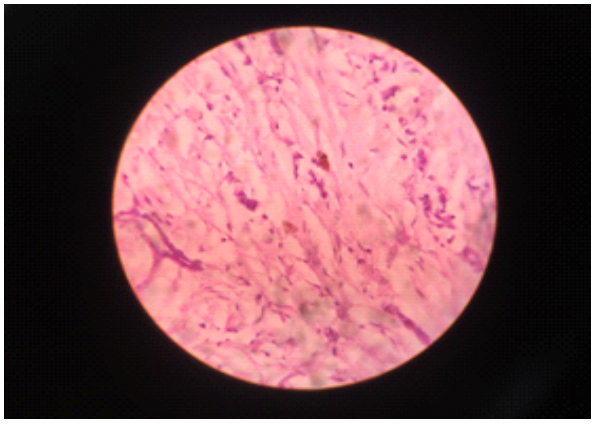

Fig.3(b) 40x magnification – stroma containing hemosiderin pigment

DISCUSSION- Scar endometriosis is an extremely rare condition with an incidence of 0.03–0.4% and usually occurs after caesarean section (1). The incidence has been estimated to be only 0.03% to 0.15% of all cases of endometriosis (4). Many theories as to the cause of scar endometriosis have been postulated; however, the most generally accepted theory is the iatrogenic transplantation of endometrial implants to the wound edge during an abdominal or pelvic surgery (5). This rare clinical condition which invariably causes a troublesome painful post-operative scar is a very commonly under-appreciated or misdiagnosed phenomenon in general surgery.

Symptoms are non-specific and diagnosis is frequently made only after excision of the diseased tissue(2). The diagnosis of scar endometriosis may be challenging. Cyclical changes in the intensity of pain and size of the endometrial implants during menstruation are usually characteristic of classical endometriosis(3). However, in the largest reported series to date, only 20% of the patients exhibited these symptoms(4). Patients usually complain of tenderness to palpation and a raised, unsightly hypertrophic scar.

The interval between the surgery and the manifestation varies from 3 months to 10 years post-operatively (6). The differential diagnoses of such swelling include desmoid tumor , haematomas, stitch granulomas and incisional hernia . Different diagnostic modalities available are ultrasonography, CT and MRI; these modalities generally guide as to depth and extent of lesion and help in planning excision. Needle aspiration cytology can also be performed before surgery if there is a suspicion of malignancy although patient history and the appearance of swelling are very much indicative of the diagnosis. Wide excision with removal of all the endometrial tissue is a rule to prevent recurrence(7) .

As the pathogenesis of scar endometriosis is direct inoculation during surgery(3), it is recommended to follow good surgical technique during caesarean section and irrigation of the incision site before abdominal wall closure and to use separate sponges for cleaning the uterine cavity and skin wound.

Management includes both surgical excision and hormonal suppression(5). Oral contraceptives, progestational and androgenic agents have been tried(6). It is believed that hormonal suppression is only partially effective and surgical excision of the scar is the definitive treatment .

CONCLUSION- Scar endometriosis is a rare and often elusive diagnosis that can lead to both patient and surgeon's frustration. One should maintain a high level of suspicion in any woman presenting with pain at an incisional site, most commonly following pelvic surgery. A thorough history and physical examination should always be performed, and every surgeon should consider this entity in their differential diagnosis.

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