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Case Report

Abnormal uterine bleeding in a woman with caesarean scar defect (isthmocele): a case report

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ABSTRACT

The caesarean scar defect generally is described as a triangular or circular sonographically anechoic area in the myometrium of the anterior lower uterine segment or cervix at the site of a previous caesarean section. Caesarean section is one of the most commonly performed surgeries and the trend is increasing in the recent years. One long-term complication of caesarean delivery which is not often discussed is the presence of a defect within the uterine scar that is directly associated with a type of abnormal uterine bleeding (AUB) referred to as postmenstrual bleeding. In addition to AUB, presented as pelvic pain, dyspareunia, dysmenorrhea, unexplained infertility. Caesarean scar defect is one such cause of AUB which is overlooked as the history of caesarean section will be many years ago. One such case of woman presenting with abnormal uterine bleeding and pain in abdomen with caesarean defect who was managed in our tertiary care centre reported here.

Keywords: Isthmocele, CSD, Scar Defect, AUB

INTRODUCTION

Caesarean section is on the rising trend globally for various indications recently and so are the complications related to caesarean sections. It is well documented that some late complications are present after a previous caesarean section. Some gynaecological consequences such as postmenstrual spotting, chronic pelvic pain, and secondary infertility have been described in patients who are diagnosed with a caesarean scar defect (CSD).[1] The healing process of the caesarean section scar can be defective. In that situation there is disruption of the myometrium at the site of the uterine scar. This "gap" in the anterior lower uterine segment is commonly known as isthmocele. This defect was first described by Morris H. using the term caesarean scar syndrome.[2] Some of the factors which are responsible for abnormal uterine scar healing are – uneven thickness of incision edges, Surgical hysterotomy closing technique, number of prior caesarean section, retroverted uterus, indication of caesarean section. Clinical presentation varies from postmenstrual spotting, chronic pelvic pain, and secondary infertility, acute pain in abdomen, dyspareunia.[1,3]

The most common symptom in patients with CSD is postmenstrual abnormal uterine bleeding (AUB) that is frequently described as dark.[2] The diagnosis of the caesarean scar defect is based in previous history of caesarean section, clinical symptoms and ultrasound and/or hysteroscopy.

Various medical and surgical options have been proposed to treat the CSD like laparoscopic repair of the dehiscence, hysteroscopy with a resectoscopic approach or vaginal repair of the CSD. One such case with CSD managed in our tertiary care centre is reported here.

CASE REPORT

A 46-year-old P2L2 woman came with complaints of sudden onset of pain in abdomen since 3 days which is severe, confined to lower abdomen and radiating to upper and inner thighs. As per history the pain was sudden in onset without any precipitating factors.

Figure 1: Transvaginal ultrasound, arrows showing the isthmocele.

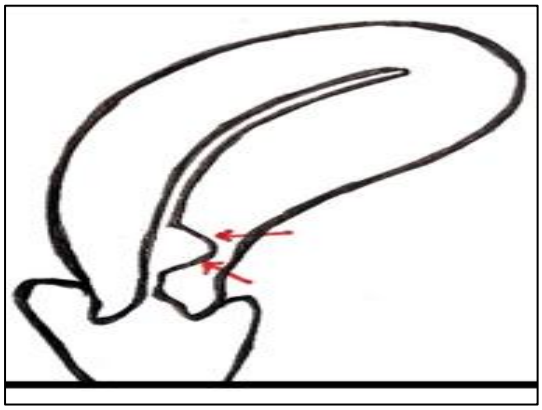

Figure 2: Diagrammatic illustration, arrows depict the ishtmocele.

Figure 3: MRI, arrows showing CSD.

After onset of pain in abdomen she also developed complaints of bleeding per vaginum, the blood was not fresh, it was altered in colour, soakage of 2 pads per day. No complaints of passage of clots. There were no complaints of nausea, vomiting, loss of appetite, loss of weight, fever, night sweats, postcoital bleeding, white discharge per vaginum, bowel or urinary complaints. No history of any local trauma. Her menstrual history revealed that she had regular cycles, LMP- 15 days ago, 3 days flow with cycle length of 30 days, normal flow, no associated dysmenorrhea or passage of clots, no complaints of intermenstrual bleeding. She was married since 20 years and she had two full term caesarean sections, one 19 years ago for nonprogress of labour and the other 17 years ago. Both the caesarean sections were uneventful, no postoperative complications as per history. She was not a known case of diabetes mellitus, hypertension, epilepsy, bronchial asthma, tuberculosis and no other major surgical or medical illness.

Figure 4: Specimen cut section showing CSD with blood clot within CSD.

Examination

Patient was vitally stable with normal findings on systemic examination. On per abdomen examination, previous caesarean scar present, there was no tenderness or guarding or rigidity in the abdomen, suprapubic tenderness present. Speculum examination revealed normal and healthy vagina and cervix, minimal bleeding from the os present. No mass or polyp seen. On vaginal examination, the uterus was 10 weeks in size with tenderness on deep palpation. No cervical motion tenderness, fornices are free, non-tender, no fixity, no rigidity. Digital rectal examination did not reveal any abnormality. She was admitted in ward of obstetrics and gynaecology. Routine baseline investigations were done and put on antibiotics.

Investigations

Pelvic ultrasonography (Figure 1) by transvaginal, revealed uterus of normal size and shape, ishtmocele noted measuring 18*7.5mm, seen communicating with the endometrial cavity. Remaining myometrium was 3.6 mm. Bilateral ovaries were normal, there was no collection. Features were suggestive of lower segment caesarean section scar defect. Figure 2 shows the diagrammatic illustration of the same.

A pelvic magnetic resonance imaging (MRI) scan (Figure 2) revealed uterus measuring 7.8×4.5×5.0 cm normal in size and signal intensities. No focal lesions, junctional zone appeared normal. Endometrium measured 3.5 mm. A well-defined small cystic outpouching measuring 10×10 mm seen in the lower uterine segment at the level of previous scar appearing subtle peripheral hyperintense with central T1W isointense, T2W and STIR hyperintensity showing the true diffuse restriction. No evidence of blooming seen on gradient images. Mild peripheral enhancement on post contrast images. Focal thinning of the myometrium measuring 3.1 mm noted adjacent to the cystic lesion in the lower uterine segment. The cyst is seen communicating with the endometrial cavity. MR features suggested of uterine ishtmocele/caesarean scar diverticulum.

Therapeutic intervention

As the myometrium was thinned out and ishtmocele appeared thin, endometrial sampling couldn't be done preoperatively to avoid perforation as imaging findings suggested of risk of perforation, rupture and also to avoid further episodes of pain in abdomen and bleeding per vaginum, hysterectomy decision was taken. A total abdominal hysterectomy and bilateral salpingoophorectomy was performed. Both fallopian tubes and ovaries appeared normal and no other abnormal intraoperative findings. The specimen was examined after excision (Figure 3). It showed the defect in the lower uterine segment with collection of blood clot in the defect.

Outcome

Postoperative stay was uneventful. Patient had no complaints of pain in abdomen or bleeding per vaginum and went home healthy.

DISCUSSION

Abnormal uterine bleeding is a common complaint among women of reproductive age, most of the times stemming from functional disorders of the menstrual cycle or as a result of uterine diseases, such as polyps, myomas, and endometrial hyperplasia. Nonetheless, the anatomic defect on the anterior uterine wall, caused by a prior caesarean section, can also cause AUB and must be considered in the differential diagnosis.[3] Some of the factors which are responsible for abnormal uterine scar healing are – uneven thickness of incision edges1, Surgical hysterotomy closing technique, number of prior caesarean section, retroverted uterus, indication of caesarean section. Our case also had some of the risk factors like two caesarean section, indication of caesarean section- non progress of labour.[4] In a retroflexed uterus the lower segment is under a degree of tension, which may affect to the healing of the Caesarean section scar.[1] Vikhareva et al study showed If the patient was in active labour for more than 5 hours or cervical dilatation is ≥5 cm there is an increase odd of subsequent Isthmocele.[6] Ofili-Yebovi et al study shows, odds of a scar becoming deficient with the consequent isthmocele formation increase with the number of previous caesarean sections.[7] Our case presented with acute pain in abdomen and bleeding per vaginum. It may be that the patient had a longstanding CSD which presented when she had an occult bleeding. This likely resulted in accumulated blood which stretched the diverticulum, causing sudden lower abdominal pain. Clinical presentation varies from postmenstrual spotting, chronic pelvic pain, and secondary infertility, acute pain in abdomen, dyspareunia, the most common being AUB2. Hui Men Selina Chin et al8 reported a case of caesarean scar defect presenting with postmenopausal bleeding. All these symptoms are probably caused by chronic inflammation, the presence of small polyps and/ or lymphocytic infiltration present in the scar. Diagnosis is mainly by imaging and hysteroscopic evaluation with history previous caesarean scar.

On ultrasound, CSDs demonstrate at least one of four key sonographic findings: a wedge defect with a depth of at least 1 mm and an indentation of the myometrium of at least 2 mm in the uterine isthmus at the caesarean section scar site, inward scar protrusion, outward protrusion and haematoma, or scar retraction.[8] Rarely, a cystic mass may bulge anteriorly under the bladder typically containing low-level echoes consistent with unclotted menstrual blood.[8] The best time to perform the ultrasound study is late proliferative phase in which the cervical mucus can fill the niche.[1] The use of 3D ultrasound facilitates the evaluation of the defect in multiple planes and offer more information than the conventional 2D ultrasonography.[1] The MRI display a linear low signal niche, sometimes filled with some fluid collection. The MRI scan also enables evaluation of the thickness of the LUS, depth of the CSD, and the contents of the endometrial and niche cavities. It further aids in the exclusion of other pathologies such as adenomyosis or adnexal, uterine, or pelvic diseases. Hysterosalpingography, sonohysterography, hysteroscopy can also be helpful in diagnosis. Following imaging, CSD can be graded, according to the size of the surface of isthmocele, classified into three grades: grade 1-≤15 mm^3, grade 2- 16 and 25 mm^3 and grade 3->25 mm^3.[9] There are various medical and surgical options recommended to treat CSD which include laparoscopic repair of the dehiscence, hysteroscopy with a resectoscopic approach, vaginal repair of the CSD. Regardless of the surgical modality used to repair the defect, all patients will benefit from the use of

oral contraceptives after the procedure to reduce menstrual blood.[1]

CONCLUSION

As the rate of caesarean delivery continues to increase, the resulting negative consequences are a growing concern. Caesarean scar defect is one such cause of AUB which is overlooked as history of caesarean section will be many years ago. Clinicians should consider history of caesarean section in the evaluation of AUB, and be cognizant of the prevalence of caesarean section defect with caesarean delivery and the association of abnormal uterine bleeding with CSD. Keen observation during imaging by radiologist is utmost important because CSD is one cause of AUB which is often missed.

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