

## Case Report

# Intramyometrial Pregnancy Presenting as Abnormal Uterine Bleeding in Perimenopausal Female

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### ABSTRACT

Abnormal uterine bleeding (AUB) is frequently encountered in the gynecological complaint of perimenopausal female visiting the outpatient department. Beginning in mid-40s, perimenopause is often marked with menstrual irregularities. Intramyometrial pregnancy (IMP) is a rare type of ectopic pregnancy with an incidence of <1% of all ectopic gestation may present as AUB in perimenopausal female. It remains a diagnostic challenge, especially in background of negative pregnancy test with the lesion ultrasonographically mimicking a fibroid with or without degeneration or an adenomyoma. We report the case of a 41-year-old perimenopausal female presenting with AUB not responding to medical management and ultrasound suggestive of degenerative fibroid. Hence, total laparoscopic hysterectomy was done and histopathology revealed the lesion to be IMP. The aim of this case report is to consider this rare entity as a possible cause of AUB in perimenopausal female even in the pretext of negative pregnancy test.

**KEYWORDS:** *Abnormal uterine bleeding, intramyometrial pregnancy, histopathology, perimenopausal female*

## INTRODUCTION

An intramyometrial pregnancy (IMP) constitutes a very rare type of ectopic pregnancy with <1% of all ectopic gestation.<sup>[1]</sup> It is located within the uterine wall surrounded by myometrium with complete separation from uterine cavity and fallopian tube.<sup>[2]</sup> Etiology includes uterine trauma as dilatation and curettage, lower uterine cesarean section (LSCS), myomectomy, manual removal of placenta resulting in sinus tract within the endometrium; *in vitro* fertilization (IVF) with difficult embryo transfer with false passage formation and implantation over intramyometrial adenomyotic foci, invasion of uterine wall by placenta accreta and subsequent growth of fetus deep within the myometrium.

## CASE REPORT

A 41-year-old perimenopausal female with previous LSCS presented with continuous bleeding for 2 months not responding to medical management. Her previous cycles were regular with no missed period. The patient had one IVF conception followed by LSCS 15 years

back. No history of any uterine procedures was given. The patient was using barrier contraceptive and gave a history of abstinence for the last 3 months. Per speculum examination was suggestive of normal-looking cervix with bleeding from the os, uniformly enlarged 8–10 weeks size uterus freely mobile, no cervical movement tenderness, and no adnexal mass on per vaginal evaluation. An ultrasound was suggestive of bulky uterus with entire myometrium anteriorly being replaced by poorly marginated, predominantly solid space-occupying lesion of 7 cm × 6 cm × 6.5 cm with echogenic areas and cystic foci suggestive of degenerated fibroid. The magnetic resonance imaging (MRI) revealed well-defined altered signal intensity lesion of size 6.6 cm × 7.1 cm × 7.7 cm in anterior myometrium appearing hyperintense on T2-weighted images distorting the endometrial cavity [Figure 1], suggesting of degenerated fibroid with intact cervix [Figure 2]. Her hematological evaluation was

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normal except for raised lactate dehydrogenase (LDH) levels (290 IU units per liter).

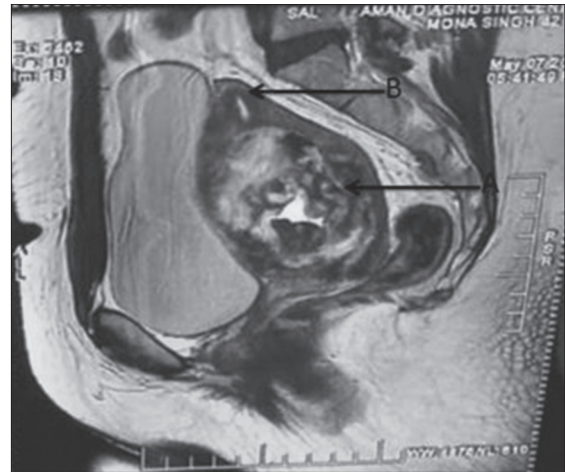
The patient refused for myomectomy. Considering age of the patient with large degenerative fibroid, no response to medical management (taken before present consultation) with raised LDH levels and no desire for future fertility patient opted for total laparoscopic hysterectomy. On laparoscopy well-defined soft hemorrhagic mass of 6 cm × 6 cm was seen in the uterus anteriorly. Total laparoscopic hysterectomy was done and intact specimen was sent for frozen section. Cut section showed a large hemorrhagic mass involving the uterine wall. As decided by tumor board, laparoscopy could be proceeded by laparotomy in case of any spill or inability to deliver uterus intact. Frozen section showed hematoma with pan myometrial chronic inflammation. Final histopathology suggested irregular endometrial surface with compressed proliferative endometrium, fibrinoid necrosis, marked chronic inflammation infiltrating into myometrium up to the serosal surface with focal chorionic villi [Figure 3] in blood clot suggestive of products of conception with no evidence of leiomyomatous tissue in the lesion. The presence of chorionic villi with the absence of leiomyomatous tissue in the uterine wall is sufficient for diagnosing it as IMP in reference to the cases in the literature so far.

Serum beta-human chorionic gonadotropin (HCG) done in institutional laboratory was negative.

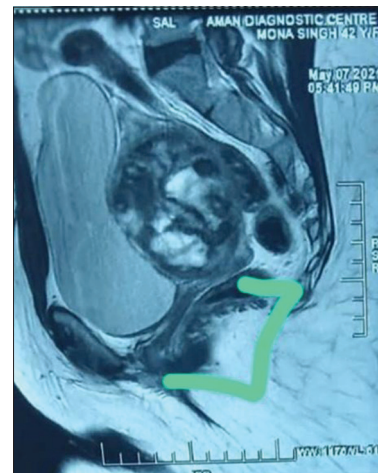
## DISCUSSION

Abnormal uterine bleeding (AUB) accounts for more than 70% of all gynecological consultations in perimenopausal and postmenopausal age groups.<sup>[3]</sup> AUB accounts for two-thirds of all hysterectomies with uterine fibroid being the leading cause.<sup>[2]</sup> Clinical examination, investigations with imaging modalities help to find out the etiology. Ectopic pregnancy in perimenopausal female can be the cause of continued bleeding even without period of amenorrhea. Ectopic pregnancy is implantation and development of the blastocyst at a site other than normal implantation site of uterine cavity excluding angles of cavity and cervical canal. Nearly 95% of ectopic are of tubal origin and 5% are nontubal in origin. IMP is a rare type of ectopic with the incidence of <1% of all ectopic.<sup>[1]</sup>

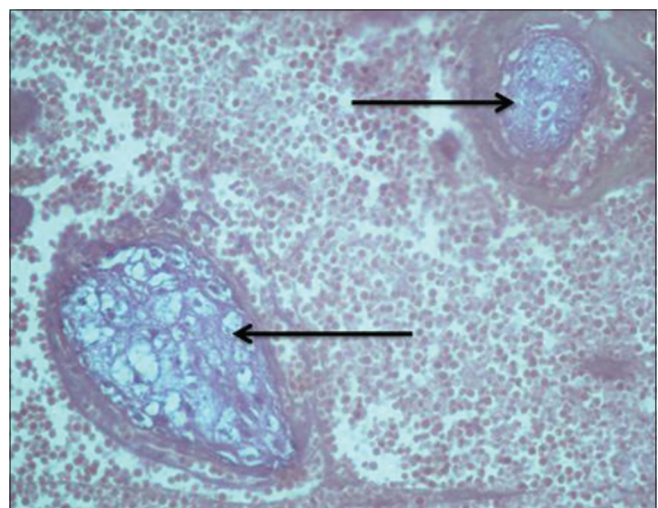
World literature has only handful of cases reported with first case reported in 1913 by Doederlien and Herzog.<sup>[4]</sup> IMP refers to a uterine conception in the uterine wall surrounded by myometrium all around with complete separation and no connection to the uterine cavity, fallopian tubes, and round ligaments.<sup>[2]</sup> It rarely



**Figure 1:** Sagittal T2-weighted image of uterus showing well-circumscribed heterogeneous mass (A) in anterior myometrium distorting the endometrial cavity with small portion normal myometrium at the fundus (B)



**Figure 2:** Sagittal T2-weighted image of the uterus with demarcated cervix



**Figure 3:** Microscopic section showing chorionic villi within in blood clot suggestive of retained products of conception (H and E, ×40)

exceeds 12 weeks of gestation since the growth of pregnancy results in thinning of overlying myometrium

predisposing uterine rupture with 2.5% of maternal mortality.<sup>[5]</sup>

Confusion remains in the literature as to its pathophysiology. Ong *et al.* explained intramyometrial ectopic by increased lytic activity of the syncytiotrophoblast and defective decidualization allowing the conceptus to penetrate the myometrium. In normal pregnancy, decidua attracts the trophoblast with both intravascular and interstitial invasion of the inner myometrium but without the movement of conceptus within the myometrium.<sup>[6]</sup>

Various risk factors have been identified for the movement of conceptus in myometrium resulting in intramyometrial gestation. The most common factor is uterine trauma such as in previous curettage, cesarean section, and myomectomy.<sup>[7]</sup> Difficult embryo transfer in IVF produces a false passage within the myometrium.<sup>[8]</sup> Leyder *et al.* described IMP after an embryo transfer following uterine artery embolization.<sup>[9]</sup> In our case, although there was a history of IVF conception followed by cesarean section 15 years back, however, its relevance with the present diagnosis could not be explained.

Treatment has to be individualized depending on the time of diagnosis, hemodynamic stability, and location of lesion with the depth of muscular invasion, gestational age, and desire for future fertility.

Negative beta-HCG cannot exclude an ectopic pregnancy. As in our case, pelvic MRI with negative beta-HCG was unable to differentiate between degenerative leiomyoma and IMP. Growth of trophoblast causes the erosion of vessels and hematoma formation with inflammation. Persistence of ectopic without rupture may lead to degeneration of trophoblast, hence, cessation of HCG production.<sup>[10]</sup>

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient

(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

#### REFERENCES

1. Ong C, Su LL, Chia D, Choolani M, Biswas A. Sonographic diagnosis and successful medical management of an intramural ectopic pregnancy. *J Clin Ultrasound* 2010;38:320-4.
2. Telner DE, Jakubovicz D. Approach to diagnosis and management of abnormal uterine bleeding. *Can Fam Physician* 2007;53:58-64.
3. Mahajan N, Aggarwal M, Bagga A. Health issues of menopausal women in North India. *J Midlife Health* 2012;3:84-7.
4. Doederlien TO, Herzog M. A new type of ectopic gestation: Pregnancy in adenomyoma uteri. *Surg Gynecol Obstet* 1913;16:14-20.
5. Kirk E, Bottomley C, Bourne T. Diagnosing ectopic pregnancy and current concepts in the management of pregnancy of unknown location. *Hum Reprod Update* 2014;20:250-61.
6. Pijenburg R, Verduysee L, Brosens I. Deep placentation. *Best Pract Res Clin Obstet Gynecol* 2011;25:273-85.
7. Lee GS, Hur SY, Kwon I, Shin JC, Kim SP, Kim SJ. Diagnosis of early intramural ectopic pregnancy. *J Clin Ultrasound* 2005;33:190-2.
8. Khalifa Y, Redgment CJ, Yazdani N, Taranissi M, Craft IL. Intramural pregnancy following difficult embryo transfer. *Hum Reprod* 1994;9:2427-8.
9. Leyder M, De Vos M, Popovic-Todorovic B, Dujardin M, Devroey P, Fatemi HM. Intramyometrial ectopic pregnancy in an ICSI patient following uterine artery embolization. *Reprod Biomed Online* 2010;20:831-5.
10. Brennan DF, Kwatra S, Kelly M, Dunn M. Chronic ectopic pregnancy – Two cases of acute rupture despite negative beta hCG. *J Emerg Med* 2000;19:249-54.