

FAILURE OF CONSERVATIVE TREATMENT FOR PLACENTA INCRETA

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Placenta increta is a rare condition resulting from abnormal implantation and invasion of placental tissue deep into the myometrium. Placenta increta, the second most common type of abnormal placental implantation, accounts for 18% of cases, with placenta accreta being the most common and placenta percreta the least common (76% and 6% of the cases, respectively). The incidence of placenta increta has been reported to be 1:2500 to 1:7000 [1,2]. It has increased during recent years because of the increased number of cesarean sections performed. Placenta increta has been associated with high mortality and morbidity rates because of severe hemorrhaging, uterine perforation, and infection. Diagnosis of placenta increta can be made using ultrasound (US) or magnetic resonance image (MRI), and the treatment of choice is usually hysterectomy [3].

We present the case of a 30-year-old woman with placenta increta who was managed initially with uterine artery embolization but underwent hysterectomy 18 weeks later as a result of hemorrhaging.

The patient presented to an outside clinic with delayed menses. She was diagnosed with an early intra-uterine pregnancy at 12 weeks of gestation which was confirmed using pelvic ultrasonography. Her medical history was significant for four elective abortions and three cesarean sections. The patient decided to terminate the pregnancy and was treated with dilatation and curettage. Postoperatively, she developed massive hemorrhaging and was transferred to our hospital for further management. A hypervascular mass located within the lower uterine segment (Figure 1) was noted on pelvic ultrasonography. A 2.7×2.3 cm mass within the same location, suggestive of placenta increta, was noted on a subsequent MRI (Figure 2). Transarterial uterine artery

embolization (TAE) was performed. Superselective transarterial embolization of the bilateral uterine arteries and branches, and other vessels as appropriate, was achieved using a 4F angiocatheter (65 cm, RC1, Super

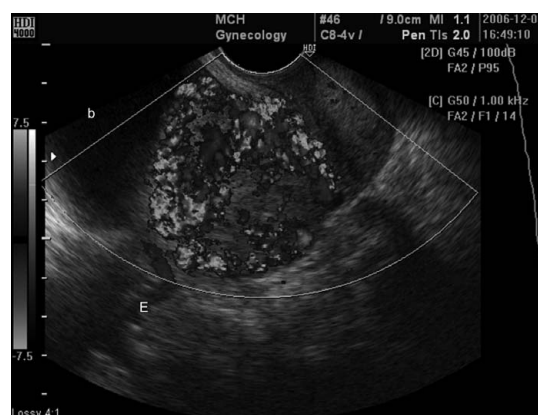


Figure 1. Pelvic Doppler ultrasonography revealed a mass with rich blood flow located at the lower uterine segment. b = bladder; E = endometrial lining.

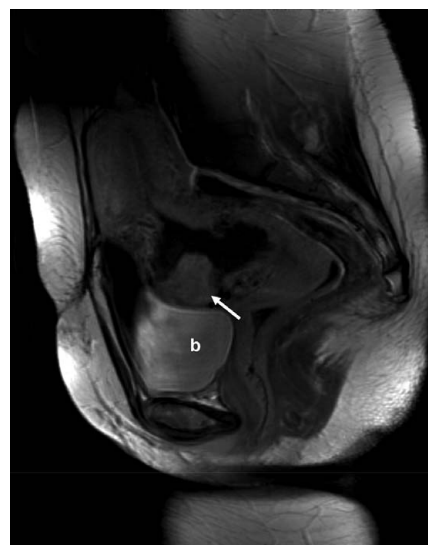


Figure 2. Magnetic resonance imaging showed a 2.7×2.3 cm mass within the same location suggestive of placenta increta (arrow). b = bladder.



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Torque; Cordis, Miami, FL, USA) with pledgets of absorbable gelatin sponges (Gelfoam; Johnson & Johnson, Skipton, UK) of varying sizes. Markedly decreased uteroplacental blood flow was seen immediately in a postembolization angiographic study. The patient was discharged in a stable condition 2 days post procedure. Her serial β -human chorionic gonadotropin (hCG) and α -fetoprotein levels both decreased to the normal range at 4 months postoperatively (from 48,121 IU/L to 0.67 IU/L).

During her follow-up period, the patient continued to have intermittent vaginal bleeding. She presented to the emergency department with sudden onset of heavy vaginal bleeding at 18 weeks after embolization. Her blood pressure dropped from 126/84 mmHg at presentation to 70/56 mmHg, with a pulse rate of 84/min. Pelvic US revealed a predominantly nonvascular heterogeneous mass approximately 3 × 4 cm located within the anterior lower uterine segment. Emergency exploratory laparotomy was performed. Intraoperatively, bleeding was noted from the mass located within the lower uterine segment that was bulging into the posterior wall of the bladder. Difficulty in separating the anterior wall of the uterus from the bladder was encountered, because this mass was adhering to the bladder. After careful dissection, the uterus was separated from the bladder and total hysterectomy was performed. The resulting serosal laceration of the bladder was repaired. The pathology revealed placenta increta (Figure 3). The postoperative course was uneventful, and the patient was discharged 3 days after surgery.

As the incidence of cesarean sections has increased, abnormal placentation has also increased [4]. Placenta accreta, an abnormal placentation resulting from abnormal implantation, is classified further by the degree of

uterine wall invasion: accreta, increta, and percreta. True placenta accreta is characterized by invasion of placental villi through the decidua basalis. Placenta increta and percreta involve placental invasion into the myometrium and serosa, respectively.

A two-stage protocol for evaluating women at high risk of advanced invasive placentation, which uses two-dimensional US initially, then adjunctive three-dimensional (3D) US and MRI for cases with suggestive or inconclusive US features for bladder or surrounding organ involvement, will optimize diagnostic accuracy. Outcomes of prenatal 3D US and MRI are equally accurate in defining the area of placental invasion, particularly those involving the urinary bladder [5]. Furthermore, MRI may be more useful in evaluating the anatomy of topographic regions invaded, such as the ureter or bowel. However, 3D US is superior to magnetic resonance angiography in evaluating *in utero* pathologic neovascularization conditions of invasive placentation by its potential for dynamic assessment of abnormally uteroplacental hypervascularity using the power Doppler mode [6–8].

For many years, hysterectomy was the preferred treatment for patients with these conditions because of unacceptably high maternal mortality rates with conservative management such as leaving all or part of the placenta *in situ*, excising the involved myometrium, and oversewing focal defects. Increasingly, conservative treatment has been advocated when blood loss is not excessive, defects are focal, and future fertility is desired. Low mortality rates have been reported in carefully selected patients. Successful conservative management of retained placenta accreta, increta and percreta may result in gradual resorption or delayed delivery of the placenta.

Conservative adjuvant treatment using methotrexate treatment is controversial [9,10]. Kayem et al [10] reported that such treatment did not have any proven benefits. Follow-up measuring hCG, which represents the activity of the trophoblast, is not a good marker for persistent placental tissues.

TAE is considered a safe, life-saving procedure in postpartum hemorrhage and has no major short- or long-term side effects [11]. During recent years, balloon occlusion has been used in the case of placenta accreta [5,12]. However, complications from this procedure, such as iliac artery thrombosis, can be significant [5].

However, conservative treatment had some disadvantages, including postpartum infection and even sepsis, delayed postpartum hemorrhage, treatment failure, long-term physical and psychologic stress for both the patients and attending physicians, and restrictive follow-up. These include all patients who were evaluated

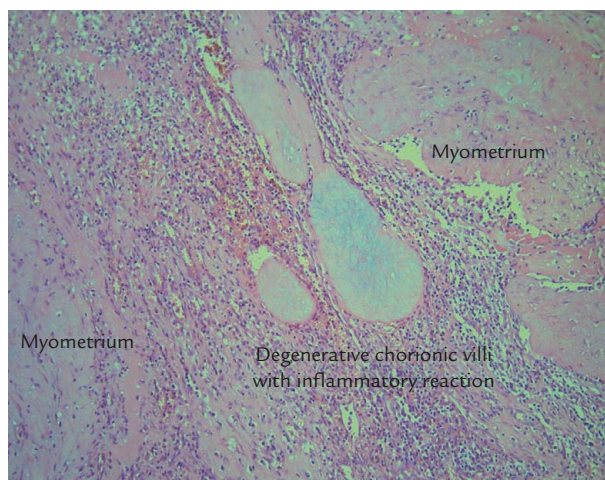


Figure 3. The pathology of placenta increta. Placental villi invaded the myometrium without intervening decidua.

weekly for 6 months using US, clinical examination, complete blood count, C-reactive protein, and vaginal samples taken for bacteriologic study in cases of endometritis [13,14]. Nonetheless, although study results support the use of conservative management to improve the outcome in selected patients, several questions remain unresolved. These include the optimal adjuvant management (methotrexate treatment, TAE, sulprostone uterotonic agent), the long-term prognosis, and the risk of rare and grave maternal morbidity or death [13,14]. On the other hand, failed conservative management has resulted in infection and acute hemorrhaging, requiring hysterectomy [15].

In our case, TAE was selected during the first episode of bleeding. After 18 weeks of close follow-up, despite a negative hCG and decreased Doppler flow, massive delayed bleeding developed and hysterectomy was performed. Conservative treatment of abnormal placentation in selected cases is possible with careful monitoring.

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