Holliday, Nicolette. 2021. "Conservative Management of Placenta Previa-Accreta in a First Trimester Missed Abortion." *North American Proceedings in Gynecology & Obstetrics* 3 (3). https://doi.org/10.54053/001c.121494.

Case Report

Conservative Management of Placenta Previa-Accreta in a First Trimester Missed Abortion

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Keywords: missed abortion, placenta previa, placenta accreta

https://doi.org/10.54053/001c.121494

North American Proceedings in Gynecology & Obstetrics

Vol. 3, Issue 3, 2024

The incidence of placenta accreta has been increasing along with the incidence of caesarean sections. There have only been a few case reports of placenta accreta diagnosed in the first trimester, and none in association with a missed abortion in a woman without risk factors. At a routine prenatal visit, a 33 year old G2P0101 at 12+6 weeks had an ultrasound demonstrating a fetus with a crown-rump length of 8+0 weeks, no fetal heart tones, a placenta previa, and a morbidly adherent placenta. The patient requested conservative management to help preserve her fertility. Imaging demonstrated an anterior placenta previa with extension of the placenta past the inner endometrium into the superficial myometrium wall and the myometrium adjacent to the superior surface of the bladder. Consultation with Maternal Fetal Medicine (MFM) at another institution similarly demonstrated a suspicion of vascular invasion of the uterine wall with no increased vascularity extending to the maternal bladder using color flow Doppler. The opinion from this second MFM team recommended expectant management with serial beta-hCG, ultrasounds, and serial physician visits as well. Her beta-hCG levels declined serially from 55262 to 4874 mIU/mL over eight weeks. Her serial ultrasounds showed involution of the placenta and reasborption of the fetus during that time. After nine weeks of conservative management, the patient underwent an uncomplicated suction dilation and curettage. Postoperatively, the patient did well and did not have any complications. A first trimester missed abortion with a placenta previa and accreta can be managed conservatively in the attempt to preserve future fertility.

BRIEF DESCRIPTION

1. The process of expectant management as a form of conservative management for a first trimester abortion with a morbidly adherent placenta has not been described.
2. A 33 year old G2P1 was diagnosed with a missed abortion at 8 weeks, a placenta previa concerning for an accreta. The anterior placenta previa was thickened with multiple lakes and had grade 3 lacunae. She elected for expectant management due to a desire for future fertility with limited complications. After nine weeks of monitoring, she had an uneventful suction curettage.
3. While first trimester abortions with morbidly adherent placentas have been discussed in the literature, this patient did not have any risk factors and chose a specific conservative approach which has not been fully described in the literature

INTRODUCTION

Placenta accreta was first described in the literature in 1937 by Irving and Hertig (Read, Cotton, and Miller 1980). It results from abnormal invasion of trophoblastic tissue into the myometrium through a defective basal decidua (Wachsman and Moore 1956). This condition is more likely present in the lower uterine segment where Nitabuch's layer is deficient or absent (Wachsman and Moore 1956; Manning and Pavey 1959). Risk factors for this condition include placenta previa, multiparity, advanced maternal age, cesarean section, myomectomy, previous corneal resection, submucosal fibroids, previous dilation and curettage (D&C), Asherman's syndrome, short cesarean-to-conception interval, intrauterine infection, history of miscarriage or abortion, history of postpartum hemorrhage with retained placenta, multiple pregnancy, female fetus, maldevelopment of the uterus, corneal implantation, hypoplasia of the endometrium, endometrial ablation, pelvic radiation, smoking, resection of a uterine septum, and hypertensive disorders (Read, Cotton, and Miller 1980; Wachsman and Moore 1956; Manning and Pavey 1959; Miller, Chollet, and Goodwin 1997; Hung et al. 1999; Usta et al. 2005; Palacios-Jaraquemada 2008; Li et al. 2013; Ballas et al. 2012). Rarely,

a patient will have no risk factors with this condition (Read, Cotton, and Miller 1980; Wong et al. 2009).

The incidence of placenta accreta has increased over the decades along with the increasing incidence of cesarean section (Ballas et al. 2012). Before the 1950s, the incidence of placenta accreta was less than 1 in 30 000 deliveries, but in 1980, the rate had increased to 1 in 2 500 deliveries (Wu, Kocherginsky, and Hibbard 2005).

CASE

A 33 year old G2P0101 with an intrauterine pregnancy at 12+6 weeks by last menstrual period consistent with a 7+5 week ultrasound had a repeat ultrasound for viability. Ultrasound showed a crown-rump length of 8+0 and no fetal heart tones. The anterior placenta previa was thickened with multiple lakes. The lacunae were grade 3 by Finberg and Williams score (Finberg and Williams 1992). There was an ill defined placental uterine interface as well.

The patient had no risk factors for a placenta accreta. Her first delivery was an induced vaginal delivery at 33 weeks for pre-eclampsia. She denied any history of dilation and curettage, manual placenta removal, or uterine surgery/instrumentation. Her only significant history was for hypothyroidism and a laparoscopic cholecystectomy.

Our Maternal Fetal Medicine specialist recommended conservative management with magnetic resonance imaging (MRI), serial beta-hCG, serial ultrasounds, frequent clinic visits, and strict precautions. After counseling the patient about the uniqueness and gravity of her situation, she elected for the conservative management with expectant management over a scheduled suction D&C.

Her MRI demonstrated an anterior placenta previa with extension of the placenta past the inner endometrium into the superficial myometrium wall and the myometrium adjacent to the superior surface of the bladder. There was a well-defined tissue plane seen between the bladder wall and the myometrium without evidence of breakthrough. Her beta-hCG levels declined serially from 55262 to 4874 mIU/mL over eight weeks. Her serial ultrasounds showed involution of the placenta and reasborption of the fetus during that time.

She had a second opinion at another academic institution where their ultrasound also showed the absence of a sonolucent subplacental layer. Using Color flow Doppler, there was suspicion of vascular invasion of the uterine wall with no increased vascularity extending to the maternal bladder. The Maternal Fetal Medicine physicians at that institution also recommended expectant management with weekly beta hCG and then a suction D&C if there was bleeding or infection.

After nearly nine weeks of conservative management with only minimal vaginal spotting and cramping, the patient requested a D&C due to mental exhaustion. One week later, after consent for a D&C with possible hysterectomy, she underwent a suction D&C without complication. Pathology revealed chorionic villi, deciduas with acute inflammation, gestational endometrium, and no fetal parts identified. Postoperatively, she did well and had no problems with bleeding.

DISCUSSION

Diagnosis of placenta accreta can be made by microscopic examination (Schram and Askari 1965) and can be detected by imaging procedures, with sonography being the most common (Höpker et al. 2002). Ultrasound has a sensitivity of 77-87%, specificity of 96-98%, positive predictive value (PPV) of 65-93%, and negative predictive value (NPV) of 98% (Committee on Obstetric Practice 2012). Sonographic criteria includes the absence of a normal hypodense retroplacental-myometric zone, a reduced or absent surface between uterine serosa and urinary bladder, the presence of focal exophytic tissue, and lacunae within the placenta (Committee on Obstetric Practice 2012; Chen et al. 2002). Visualization of the lacunae is the most reliable predictive sign and has a sensitivity of 79-93% and PPV of 92-93% (Palacios-Jaraquemada 2008; Comstock et al. 2004; Yang et al. 2009). Thinning of the myometrium less than 1 mm suggests abnormal placentation with a sensitivity of 93%, specificity of 79%, and PPV of 73% (Palacios-Jaraquemada 2008). Transvaginal Doppler ultrasound may highlight areas of increased vascularity from dilated blood vessels crossing the placenta and myometrium (Chen et al. 2002). Doppler flow ultrasonography has a sensitivity of 90.74% and a specificity of 87.68% (D'Antonio, Iacovella, and Bhide 2013). Specific to the first trimester, findings suspicious for accreta include abnormally low implantation of the gestational sac and an irregular appearance of the developing placental-myometrial interface (Ballas et al. 2012).

MRI can be used as a supplementary diagnostic procedure especially if the placenta is posterior (Höpker et al. 2002). MRI has a sensitivity of 80-93% and a specificity of 65-85% for diagnosing an accreta (Mansour and Elkhyat 2011). Failure to demonstrate adherence of the clinically suspected placenta accreta to the myometrium cannot be used to exclude the diagnosis of placenta accreta (Gielchinsky et al. 2004).

Compared to when the diagnosis of a placenta accreta is made antenatally, there is increased risk of peripartum morbidity and mortality for both the mother and neonate when the diagnosis is made at time of delivery (Ballas et al. 2012). Complications of placenta accreta can include uterine rupture and catastrophic hemorrhage requiring peripartum hysterectomy (Manning and Pavey 1959; Schram and Askari 1965). The average blood loss at delivery of a patient with placenta accreta is 3 000-5 000 mL (Hudon, Belfort, and Broome 1998). The rate of peripartum hysterectomy is 1.0 to 1.4 per thousand deliveries, and placenta accreta is reported as the leading or second most common indication for that peripartum hysterectomy (Usta et al. 2005).

Historically, placenta accreta has been managed with laparotomy and hysterectomy (Wachsman and Moore 1956; Manning and Pavey 1959; Rashbaum et al. 1995). An article from 1950 reported zero mortality with hysterectomy but a 70% mortality with manual attempts at removal (Manning and Pavey 1959). An article from 1972 reports maternal

mortality from hysterectomy was 5.8-6.6% and 12.5-28.3% with attempts at conservative management (Miller, Chollet, and Goodwin 1997). More recently, management for third trimester placenta accreta has included suture of bleeding site, curettage, uterine artery ligation, hypogastric artery ligation, leaving the placenta in situ with and without methotrexate (Read, Cotton, and Miller 1980; Miller, Chollet, and Goodwin 1997; Höpker et al. 2002; Chen et al. 2002).

Our offering of conservative management of a placenta previa and accreta in the setting of a first trimester missed abortion has not been documented in the literature before. One systematic review on the topic documented conservative management including uterine artery embolization, transcatheter arterial chemoembolization with dactinomycin, and laparoscopic hysterotomy with placental tissue removal (Wang, Weng, and Huang 2019). Our case offers expectant management as a conservative approach which resulted in a non-complicated Suction D&C. There are no evidence based recommendations for management of patients seeking first- and second-trimester abortions with a diagnosis of placenta accreta (Tocce, Thomas, and Teal 2009). Previous studies investigating placenta accreta in the first two trimesters have evaluated the outcomes of hysteroscopic resection (Confino, Robins, and Williams 2014), dilation and evaluation (Chen et al. 2002), uterine artery embolization (Yang et al. 2009; Tocce, Thomas, and Teal 2009), chemotherapy with methotrexate, mifepristone, or both (Li et al. 2013).

We contend that in a first trimester missed abortion with a placenta previa and accreta, conservative management may be offered to those patients desiring future fertility who want to minimize risks of complications.

Submitted: May 15, 2021 EDT. Accepted: June 05, 2021 EDT.
Published: June 29, 2021 EDT.

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