

# Protrusion of placental tissue through the cervical os as an unusual presentation of placenta accreta: A case report

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## ARTICLE INFO

### Keywords:

Placenta accreta  
Placental imaging  
Multidisciplinary approaches  
Case report

## ABSTRACT

**Introduction:** Abnormal placentation commonly occurs in women with a history of uterine surgery or placenta previa. Placenta accreta spectrum can occur in the setting of lesser-known risk factors and anatomical locations. **Case:** A 41-year-old woman (G6P4014) at 18 weeks of gestation without major risk factors was diagnosed with a placenta accreta after presenting for desired termination of pregnancy. On examination, placental tissue was found to be protruding through the cervical os and this was confirmed by magnetic resonance imaging (MRI). Management included pregnancy termination with intracardiac potassium chloride injection, uterine artery embolization, and a total abdominal hysterectomy. **Conclusion:** Protruding cervical tissue should raise suspicion for placenta accreta. Appropriate evaluation and surgical planning should be performed to ensure a safe delivery.

## 1. Introduction

Placenta accreta occurs when the placenta attaches to but does not invade into the uterine myometrium, allowing direct contact between the uterine wall and the placenta [1]. This direct contact results in abnormal separation of the placenta, leading to hemorrhage and often requiring blood transfusion and hysterectomy [1,2].

The incidence of placenta accreta has steadily increased over the past few decades due to the increasing rate of cesarean deliveries [3]. Other significant risk factors include placenta previa, prior uterine surgery, or other pelvic procedures that could result in inflammation or scarring [4]. Advanced maternal age and multiparity have also been associated with placenta accreta, and cases of women with no significant risk factors are rare [4,5]. Early screening with ultrasound and sometimes MRI is performed in women at high risk for placenta accreta [5].

The case reported here is a unique presentation of placenta accreta in a patient with no known risk factors other than advanced maternal age.

## 2. Case Presentation

A 41-year-old woman (gravida 6, para 4014) presented at 18 weeks of gestation to a family planning clinic for planned termination of pregnancy for fetal trisomy 21. Ultrasound from another hospital at 13

weeks of gestation reported an anterior placenta two weeks prior to amniocentesis. Other than advanced maternal age and confirmed trisomy 21, the pregnancy was uncomplicated. The patient had a benign obstetric history, including four full-term vaginal deliveries and one first-trimester spontaneous abortion which did not require dilation and curettage. Her gynecologic history was benign, including a normal pap smear one year prior to presentation and a negative test for high-risk human papilloma virus (HPV).

### 2.1. Clinical Findings

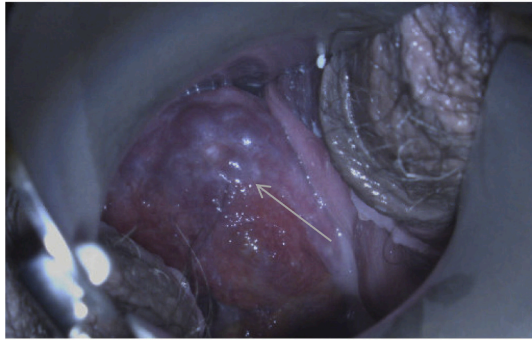
During the patient's evaluation for termination of pregnancy, her pelvic exam was notable for a "diffusely enlarged and abnormally soft cervix that was bluish-purple in appearance at the anterior lip. The posterior lip of the cervix was incompletely visualized but appeared large and friable. The location of the cervical os was not visualized and there was moderate bleeding with light touch of cotton swab, requiring Monsel's (ferric subsulfate) solution."

She was then referred for colposcopic examination, where visual inspection of the cervix was performed (see Fig. 1a and b). A pap smear had been performed which showed atypical squamous cells of uncertain significance (ASC-US) and was negative for high-risk HPV. Digital examination resulted in brisk vaginal bleeding of approximately 200 ml.

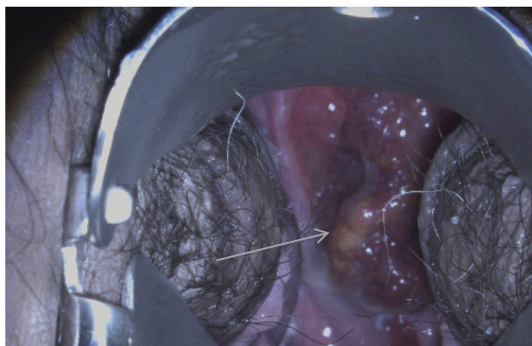
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A



B



**Fig. 1.** a. Colposcopy examination of the anterior lip of the cervix with visualized vascular tissue.  
b. Colposcopy examination of the posterior lip of the cervix with friable-appearing tissue.

Vaginal packing was placed, and the patient was brought to the labor and delivery floor for further evaluation and management.

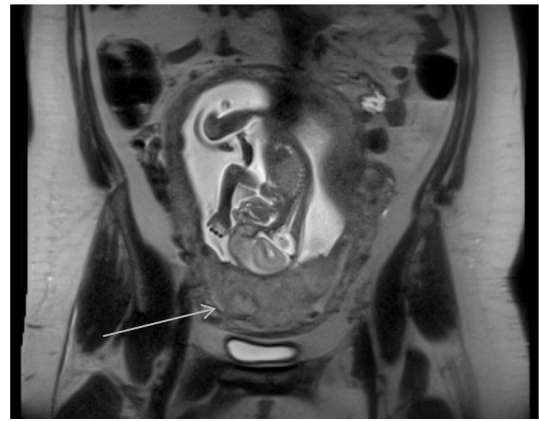
## 2.2. Diagnostic Assessment

On the labor and delivery floor, vaginal packing was removed and bleeding ceased. A translabial ultrasound was performed and was notable for an “anterior placenta 10.8mm from the internal os with an area in the upper anterior, superior cervix that appeared highly vascular.” Gynecologic oncology was consulted, and the patient underwent an exam and cervical biopsy under anesthesia which was significant for a “large exophytic mass from the anterior lip of cervix protruding into the cervical os.” The mass appeared vascular at the superior aspect with “prominent venous sinuses.” The cervix was extremely friable and minimal manipulation resulted in significant brisk bleeding.

An MRI scan was obtained on day 2 of hospital admission which was significant for a “normal-appearing placenta partially extruding into the normal cervix without invasion of myometrium” (Fig. 2). Chest x-ray and abdominal ultrasound were obtained to evaluate for potential metastasis in case pathology returned malignant, which were both negative. Pathology from the cervical biopsy returned on postoperative day 2 as decidua with no tumor present.

## 2.3. Therapeutic Intervention

On postoperative day 2/hospital admission day 3, the patient underwent Gelfoam embolization of both uterine arteries with

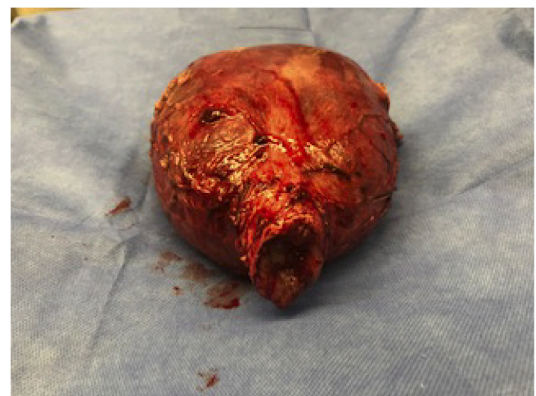


**Fig. 2.** MRI image obtained on hospital day 2 showing placental tissue in the lower anterior wall of the uterus.

interventional radiology (IR) due to concerns for major hemorrhage. Potassium chloride injection was administered to decrease mass vascularity, terminating fetal cardiac activity. The multidisciplinary team made a shared decision to perform a gravid total abdominal hysterectomy with bilateral salpingectomy by gynecologic oncology and maternal-fetal medicine. The procedure was performed without complications, and upon removal of the uterus and cervix, the placenta remained attached with no gross abnormalities, as demonstrated in Figs. 3 and 4.

## 2.4. Follow-Up and Outcomes

The patient did well during the procedure with a blood loss of approximately 200 ml and had an uncomplicated postoperative course. She was seen one month later for follow-up with a normal physical exam consistent with appropriate postoperative advancement. Uterine pathology findings were significant for “focal placenta accreta, decidua present in the endocervical tissue, and a 1.4cm leiomyoma.” Placental tissue pathology was significant for “placental disc with mild acceleration for gestational age” with histologically unremarkable fetal membranes and umbilical cord with three vessels. Pathology reported that the placenta “extended past the presumed cut endocervix by 4.9 cm, such that a portion of the maternal surface of the placenta could be seen. Cervical pathology was significant for “decidua present in the endocervical tissue, chronic cervicitis, and squamous metaplasia.”



**Fig. 3.** Excised uterus and cervix with tissue extruding through the os.

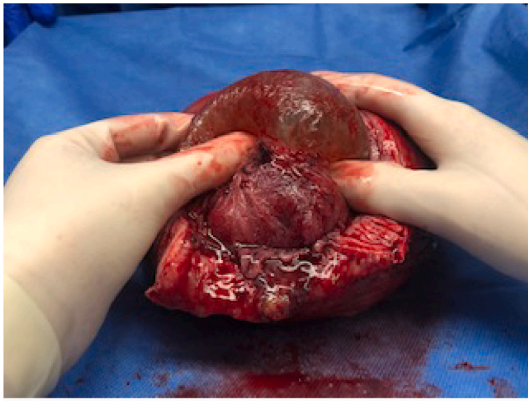


Fig. 4. Dissected uterus with placenta attached to gestational sac.

### 3. Discussion

Placenta accreta remains a rare diagnosis made in the setting of massive hemorrhage and abnormal separation of the placenta during labor or abnormal findings during ultrasound evaluation [1,5]. This case demonstrates an unusual presentation of placenta accreta in which the patient had minimal risk factors and ultrasound findings of only a low-lying placenta. Initial suspicion was raised at the time of the initial physical examination with extruding vascular tissue within the cervical os.

One other case study has described placental tissue protruding through the cervical os in a third-trimester pregnancy. That patient had evidence of a posterior wall low-lying placenta but no evidence of previa [6]. This case study is unique in that it describes a placenta accreta, where placental parenchyma was found protruding through the cervical tissue with villi invading into the myometrium. This case was still managed similarly with hysterectomy due to concern for life-threatening hemorrhage.

Diagnosis of this case was challenging. It has been proposed that a standardized method of screening be established for placenta accreta, given the rising number of cases over the past several decades and the devastating consequences of later diagnosis; however, no standardized screening methods currently exist [4]. Ultrasound remains the primary method for diagnosis [7]. Consensus on whether to incorporate MRI has not been reached [7]. This is partially due to conflicting evidence regarding the benefits of MRI, except in cases that are challenging to diagnose [12,13]. After review of over 78 patients with evidence of accreta on ultrasound, 17% underwent an incorrect change of diagnoses after MRI and 21% received incorrect confirmation of ultrasound diagnosis [14]. As patients continue to delay pregnancy to a later age and the rate of cesarean delivery continues to rise, further discussion about standardized screening for early diagnosis and safe management of placenta accreta is warranted.

Current guidelines for accreta management recommend cesarean hysterectomy with placenta left in situ, using a multidisciplinary approach [7,8]. Interventional radiology, maternal fetal medicine, and gynecologic oncology was involved to perform IR embolization, fetal potassium chloride injection, and a gravid hysterectomy due to the high vascularity observed via physical exam and concern for potentially significant blood loss. Evidence on the benefits of uterine artery embolization to reduce risk for maternal hemorrhage remains conflicting [9,10]. Use of potassium chloride injection to reduce uteroplacental blood flow has reduced risk of postpartum hemorrhage in termination of pregnancy in the second trimester [11]. Expectant management with placenta left in situ along with embolization, uterine compression, and balloon tamponade are options for uterine preservation [15]. However, cesarean hysterectomy is a safer option for women with a prior history of cesarean delivery or active postpartum hemorrhage [17]. The patient in

this case was not a candidate for conservative management as she had completed her family and had profound hemorrhage.

More research is needed to investigate the benefits of these interventions in management of placenta accreta. Modifying standard of care with additional adjunctive measures should be considered, especially in cases like this one where there was concern for high vascularity. Furthermore, this case shows the importance of establishing multidisciplinary teams early to ensure preparation for complications associated with abnormal placentation.

This case is an unusual presentation of placenta accreta with placental tissue protruding through the cervical os. The association between advanced maternal age and abnormal placentation has been identified as an independent risk factor [3]. Histopathological studies have demonstrated that abnormal trophoblast invasion, in addition to absent decidua and prior scarring, as a contributing mechanism for the development for placenta accreta [18]. However, the role of advanced maternal age in this pathogenesis, apart from a history of uterine damage or inflammation, still remains to be explored. More importantly, this case reveals areas in diagnosis and management of placenta accreta that need to be optimized. In addition to exploring further the benefits of MRI in diagnosing difficult cases of placenta accreta, incorporating other treatment measures such as embolization and potassium chloride injection in pregnancies that will not be continued may need to be considered.

### 4. Patient Perspective

The study team was not able to reach the patient for comment or perspective.

#### Contributors

Anna Marie Pacheco Young was responsible for assisting with patient care, analysis and interpretation of the case, drafting of the manuscript, obtaining photos for figures, and finalizing all aspects of the manuscript.

Katelyn Uribe was responsible for patient care, maintaining patient communication and consent, analysis and interpretation of the case, reviewing imaging studies to include in the manuscript, and editing and finalizing the manuscript.

Angela K. Shaddeau was responsible for patient care, analysis and interpretation of the case, editing and writing portions of the manuscript, and finalizing the manuscript.

#### Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

#### Funding

This publication was made possible by the Johns Hopkins Institute for Clinical and Translational Research (ICTR), which is funded in part by Grant Number TL1 TR003100 from the National Center for Advancing Translational Sciences (NCATS), a component of the National Institutes of Health (NIH), and NIH Roadmap for Medical Research. Its contents are solely the responsibility of the authors and do not necessarily represent the official view of the Johns Hopkins ICTR, NCATS or NIH.

#### Patient Consent

Obtained.

#### Provenance and Peer Review

This case report was peer reviewed.

## Acknowledgements

Jeanne Sheffield, MD, assisted us with editing of this manuscript; Nicole Gavin, MD, and Betty Chou, MD, assisted with photo documentation.

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