
A Case of Collaterals – Extensive Cervical and Vaginal Varices in a Placenta Accreta

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INTRODUCTION

- Placenta accreta spectrum (PAS) is associated with increased risk of any surgical morbidity (78.3%), hemorrhage (54.1%), and coagulopathy (5.3%)
 - PAS coexisting with placenta previa can develop cervical and vaginal varices due to venous congestion
- Significant hemorrhage risk in these cases
 - Unknown origin of variceal blood supply
 - Blood flow to the uterus is up to 500-1000ml/min at term
 - Low threshold to involve interventional radiology for preemptive hemorrhage control

CASE

- 38-year-old G3P2, prior C-section x2, at 35 weeks gestation presenting for scheduled Cesarean hysterectomy
- Anterior placenta previa with placenta accreta
- Bulging lower uterine segment
- **Extensive cervical and vaginal varices**

INTRAOPERATIVE COURSE

- **Interdisciplinary approach**
 - Preoperative planning meetings with gynecology oncology, maternal fetal medicine, obstetric anesthesia, urology, interventional radiology, ICU, nursing
- Radial arterial line and central line placed prior to OR
- Single shot spinal placed in OR
- Bilateral ureteral stents placed by urology
- Bilateral internal iliac artery balloons placed by interventional radiology
- Cesarean section completed under spinal
- Induction and intubation after delivery for hysterectomy
- **1.5 liters (L) blood loss in 10 minutes with balloons inflated; 3.2L total for the case**
- Received 5 units PRBCs, 5 units FFP, 1 cryo, 1 platelet
- Taken to ICU intubated post-operatively
- Extubated later that evening and discharged home



Figure 1: T2 MRI image demonstrating high-intensity cervical varices

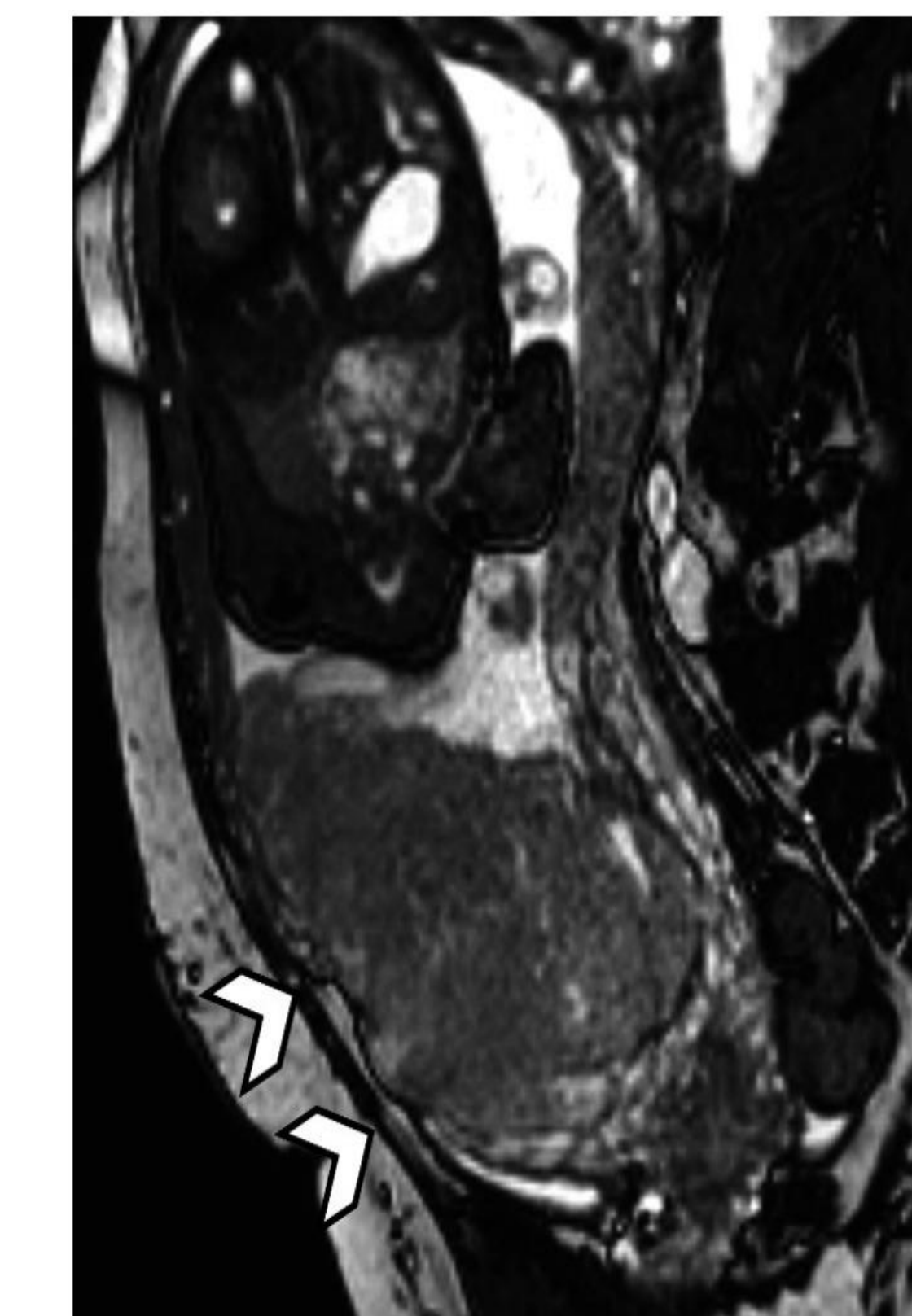


Figure 2: Thinning of anterior myometrium with bulging of lower uterine segment and lobulated external contour

Teaching Points

DELIVERY PLANNING

- Coordination, scheduling, and counseling patient
 - Multidisciplinary approach (MFM, OB Anesthesia, ICU)
 - Potential need for premature delivery and/or hysterectomy
- Gestational age for delivery
 - Optimum delivery between 34-35 6/7 weeks
 - Increased bleeding risk after 36 weeks
 - Maximizes fetal maturity

UTERINE SUPPLY, HEMORRHAGE, AND COAGULOPATHY

- Uterine supply comes primarily from the uterine artery (branch of internal iliac artery in most cases) with contributions from ovarian and vaginal arteries
- In PAS additional anastomosis and varices develop
- In our case, our patient had **extensive cervical and vaginal varices**, raising concern for risk of massive hemorrhage
- Preparing for bleeding risk is crucial
 - Planning surgical and anesthetic management
 - Ways to anticipate massive hemorrhage
 - MRI findings (intraplacental T2-dark bands, myometrial disruption, uterine bulge)

- Some standard PAS techniques incorporate vascular control
 - Use vessel sealing devices to cauterize vascular anastomosis
 - Uterine artery ligation prior to hysterectomy is done to reduce blood loss but may not be sufficient in cases with features concerning for massive blood loss
- Involvement of IR to place **bilateral internal iliac balloons (IIABO)** prior to hysterectomy may mitigate hemorrhage
 - Studies have shown reduced blood loss from 4.7L to 2.8L with significantly lower transfusion requirements

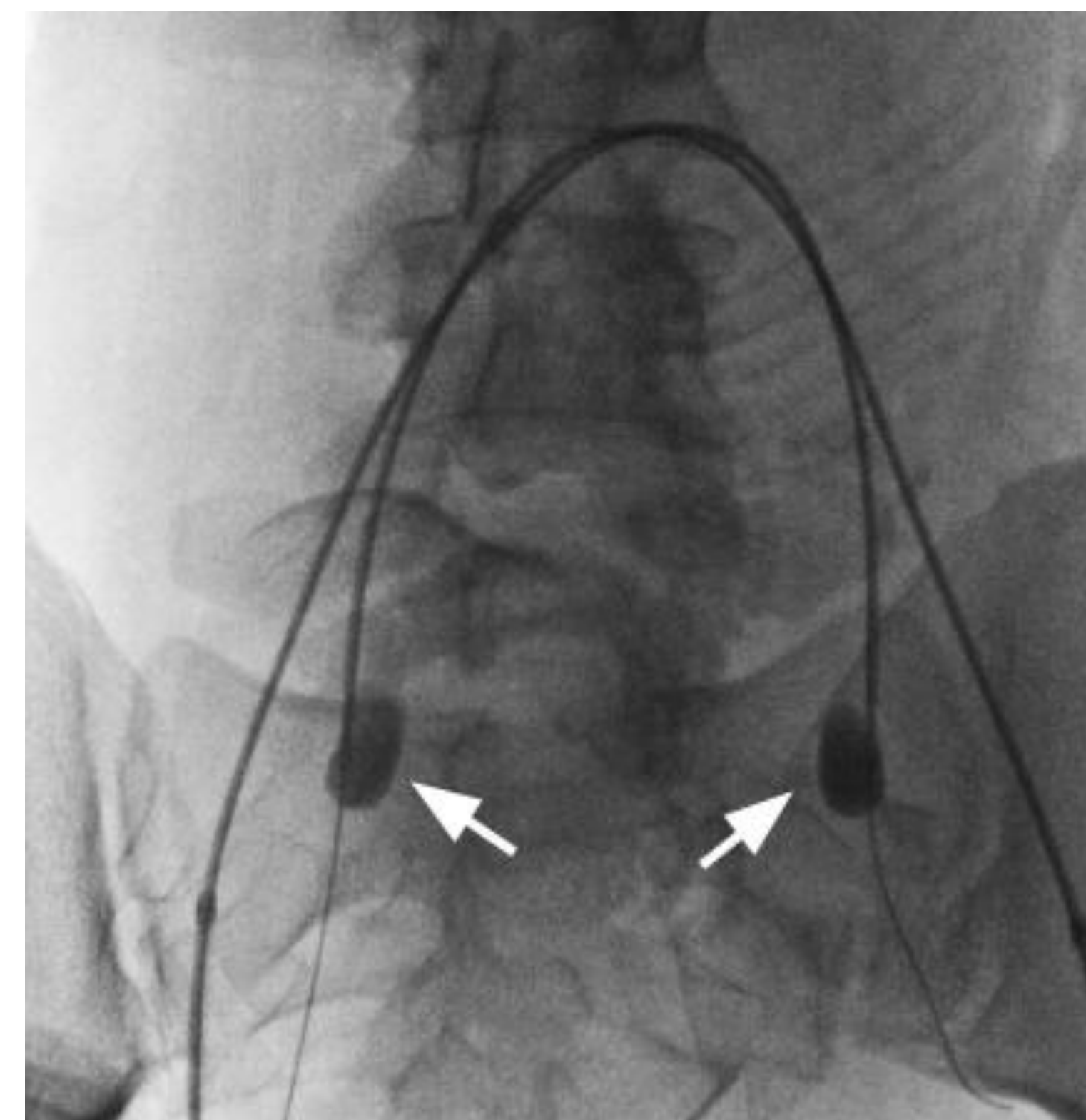


Figure 3: Bilateral internal iliac artery balloons

ANESTHETIC TECHNIQUE

- Monitors
 - Standard ASA
 - Consider arterial line
 - Additional access – central access or large bore IVs
- Neuraxial versus GETA
 - **Consider risk of epidural hematoma with neuraxial if massive hemorrhage anticipated**
 - Tailor anesthetic plan for hysterectomy portion to patient and institutional preferences
- Transfusion
 - PRBCs, FFP, cryoprecipitate, platelets
 - Rapid infusion (Belmont, Level 1)
 - Cell Saver
- Antifibrinolytic therapy
 - TXA

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