
A Multidisciplinary Approach to Surgical Management of Placenta Previa Percreta with Bladder Invasion: A Case Report

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Placenta previa percreta with bladder invasion occurs rarely. However this disorder has become more common since the increased rate of cesarean deliveries. We present a 26 year old gravida 3, para 2-0-1-2 female with placenta previa, percreta and bladder invasion to stress out the importance of early recognition of this life threatening condition and to point out that the good outcome of this case was mainly due to the multidisciplinary approach chosen during the

preoperative and post operative management. The Departments of Obstetrics and Gynecology, Radiology, Anesthesiology, Urology, Neonatology and Pathology were fully involved. A surgical management was chosen since it is the most common and more accepted treatment of placenta previa percreta with bladder invasion.

Key words: Percreta, Placenta, Previa, Bladder invasion, Management

Abnormal placentation occurs when there is a defect of the decidua basalis resulting in abnormal invasive implantation of the placenta. Risk factors associated to this condition are placenta previa, previous cesarean delivery, uterine surgeries (myomectomy, uterine curettage), advanced maternal age, multiparity and high gravidity (1). It is often diagnosed after delivery when manual removal of the placenta has failed. Attempting forcible manual removal of an abnormally implanted placenta may lead to dramatic hemorrhage that may lead to a hysterectomy. Thus placenta accreta especially placenta percreta has a reported mortality rate of 7% and it is a cause of intraoperative and postoperative morbidity associated with massive blood transfusions, infection, and damage to adjacent organs like bladder, and ureter which may later lead to long term postoperative complications like vesicovaginal fistula. Its incidence has increased in the last 50 years by a ten (10) fold factor and it is correlated to the increased rate of cesarean deliveries. Today, it occurs with a frequency of 1 per 2,500 deliveries (2). Placenta previa percreta with bladder invasion poses

a serious risk of maternal hemorrhaging as well as damage to the adjacent organs in the genitourinary tract. Cesarean hysterectomy is the usual treatment, although other alternatives are discussed.

Case Report

A 26 year old woman, gravida 3, para 2-0-1-2 was admitted to the San Juan City Hospital at 34.3 weeks of gestation due to painless third trimester vaginal bleeding. A diagnosis of a complete placenta previa was made. At the time of admission, the obstetric sonogram at the Department of Obstetrics and Gynecology also suggested the possibility of a placenta previa percreta with bladder involvement. These findings were confirmed by the Department of Radiology which described an anterior placenta extending along the lower uterine segment with multiple retro-placental vessels invading the myometrial wall and placenta extending into the posterior wall crossing over the internal cervical os. (Figures 1, 2). Patient was discharged in view that she was asymptomatic and well oriented. The patient's history was notable for two prior cesarean deliveries; the first one due to gestational hypertension and the second was an uneventful repeat cesarean delivery at term. She had an antepartum care of 5 prenatal visits. Her alpha-feto protein was elevated. On a target sonogram no pathology was reported. At 35 4/7 weeks of gestation, the patient was hospitalized. Upon

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Figure 1. Color doppler of placenta and bladder invasion longitudinal.



Figure 2. Doppler of bladder (B) invasion by placenta transverse.

admission and because of the potential for hemorrhage and urological complications, anesthesiology, urology, and neonatology services were consulted. On this admission, the patient hemoglobin was 9.9 mg/dl, reason for which three units of packed red blood cells were transfused for a pre-operative hemoglobin of 12.8 mg/dl. All other laboratories were normal. At 36.1 weeks of gestation an amniocentesis was done to confirm fetal lung maturation. An elective cesarean hysterectomy was scheduled for the following day as the first case to allow for maximum supportive staff. Before surgery, six units of

packed red blood cells were cross matched; two immediately available at the operating room. Other measures were taken as to have adequate intravenous fluid access and anti-embolic stockings prior to general anesthesia. The abdomen was approached through a midline incision and the uterus was opened with a fundal classical incision. The fetus was delivered from a vertex presentation by breech extraction. The infant weighed 2187 grams and had apgar scores of 7 and 7 at 1 and 5 minutes respectively. Placenta previa percreta with bladder extension was noted grossly. Without manipulation of the placenta and leaving the uterine incision opened, the uterine vessels were clamped and ligated. At this point we proceeded with the hysterectomy. While separating the bladder, an incidental laceration was made and the urologist joined the operating team. The right ureter was catheterized but on the left he was not able to do so, but patency of the orifice was confirmed. Bladder repair included an omental flap. Cystotomy catheter was placed for urine drainage. An intraoperative drain was placed through the anterior abdominal wall. Intraoperative blood loss was calculated on 4,000 milliliters requiring 7 units of packed red blood cells and 2 units of fresh frozen plasma. Intravenous fluid requirements were managed according to the patient vital signs including strict urinary output. The patient was transferred to the intensive care unit and extubated 12 hours post-operation. Patient was transferred to the post partum ward on post operative day 6. On post operative day 7, she had a retrograde cystogram which confirmed an intact bladder and cystotomy tube was removed by the Urology Service. The patient was discharged on the post operative day 12. The final pathology report confirmed the above intraoperative findings of placenta percreta. (Figures 3, 4)

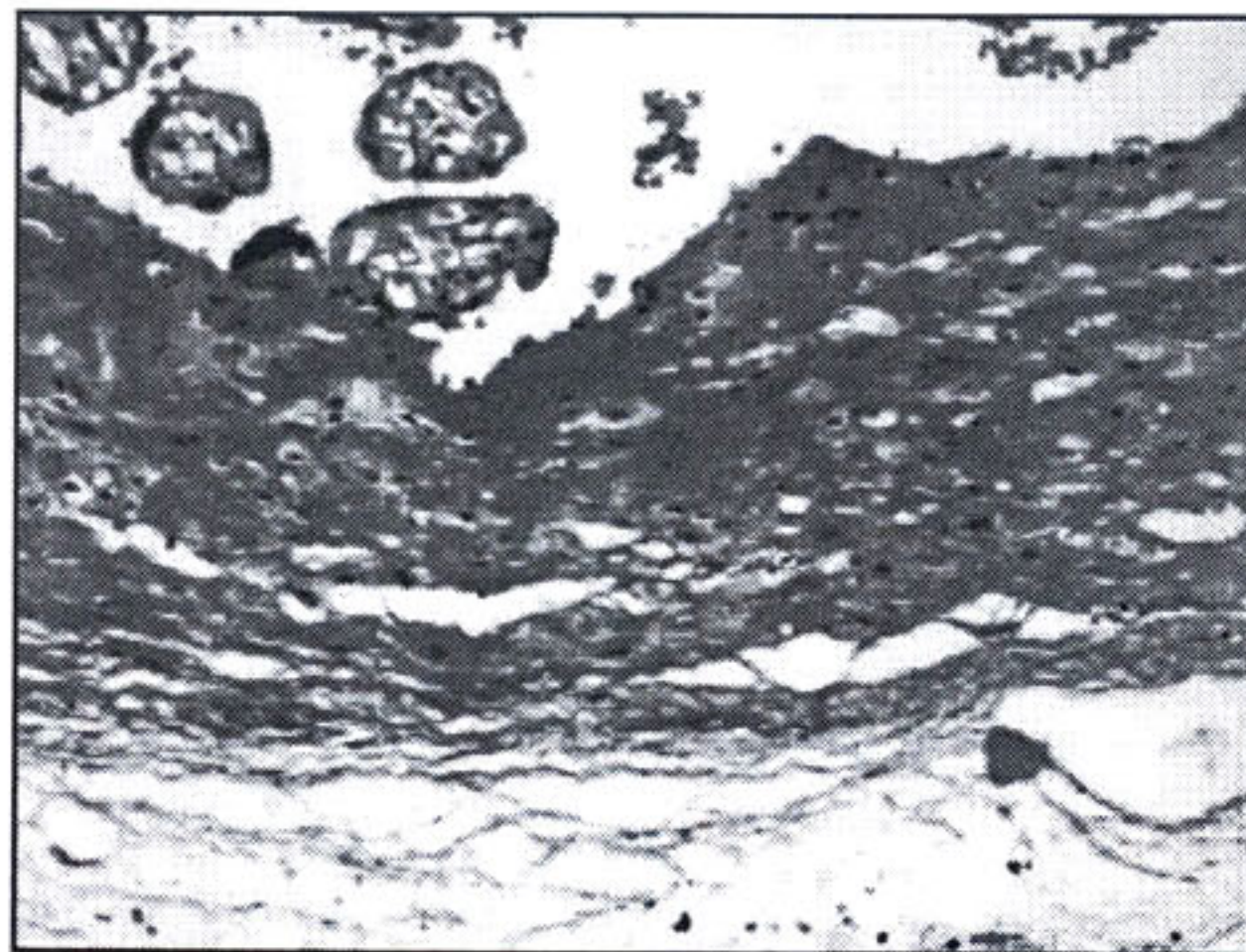


Figure 3. Note the presence of chorionic villi near the serosa or perimetrium with only intervening Nitabuch fibrin, and scattered intermediate trophoblast. (H&E 20X).

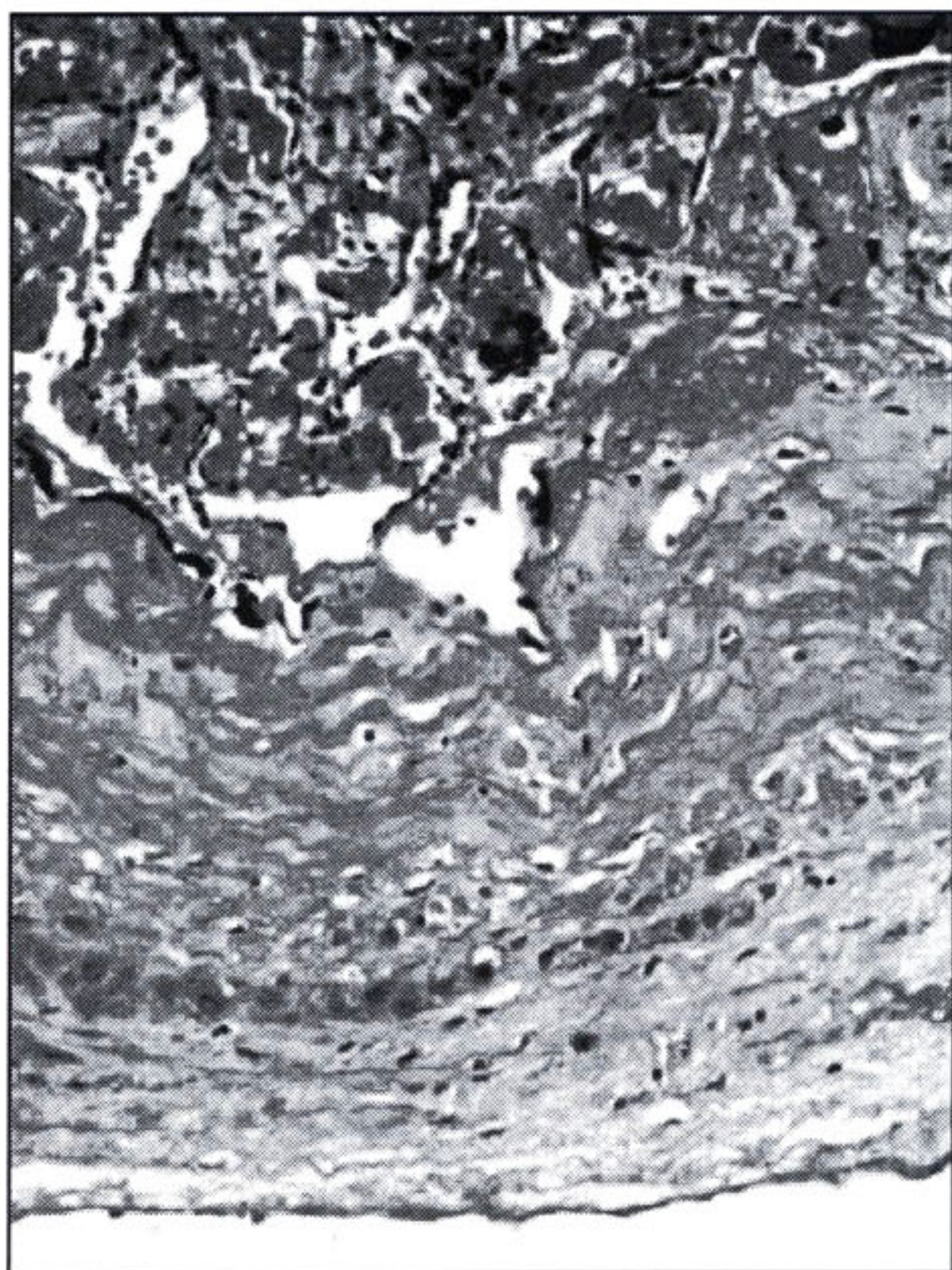


Figure 4. There is complete invasion of the myometrium by placental tissue up to the serosa. Note chorionic villi, abundant Nitabuch fibrin and a row of intermediate trophoblastic cells.(arrows) Myometrium and decidua are not observed. (H&E, 20X).

Discussion

Placenta previa percreta with bladder invasion occurs rarely, but this disorder has become more common since the increased rate of cesarean deliveries. Early sonography and magnetic resonance imaging (MRI) techniques might lead to preoperative diagnosis and preparation (2). Intraoperative blood loss remains high. If the diagnosis or a strong suspicion of this condition is suspected prior to delivery, the American College of Obstetrics and Gynecology (ACOG) recommends that: The patient should be counseled about the likelihood of hysterectomy and blood transfusions. Blood products and clotting factors should be available. Cell saver technology should be considered if available. The appropriate location and timing of delivery should be considered to allow access to adequate surgical personnel and equipment and finally a preoperative assessment should be obtained. (3). We did follow these recommendations in our case and that is probably why a favorable outcome was obtained. Surgical treatment of placenta percreta has been the treatment of

choice but it carries a risk of hemorrhage and trauma to adjacent organs. More conservative approach has been reported including cesarean section with placenta left in situ and post operative methotrexate therapy, embolization of the uterine arteries after cesarean allowing subsequent manual removal of the placenta and wedge resection of the uterine portion. Conservative management had some disadvantages, including postpartum infection, restrictive follow up, and treatment failure. In most instances total hysterectomy has been the final treatment. (4, 5).

We present this case to stress out the importance of early recognition of this life threatening condition and to point out that the good outcome in this case was mainly due to the multidisciplinary approach of the Departments of Obstetrics and Gynecology, Radiology, Anesthesiology, Urology, Neonatology and Pathology during the preoperative and post operative management of the patient. Finally a surgical management was chosen since it is the most common and more accepted treatment of placenta previa percreta with bladder invasion.

Resumen

Placenta previa percreta con invasión de vejiga es raro. Sin embargo esta condición se ha hecho mas frecuente con el aumento de partos por cesareas. Presentamos a una mujer de 26 años grava 3 para 2-0-1-2 con placenta previa percreta e invasión de vejiga para enfatizar la importancia de reconocer temprano esta condición que puede amenazar la vida y señalar que el éxito del manejo de este caso se debió al acercamiento multidisciplinario de los departamentos de obstetricia y ginecología, radiología, anestesiología, urología, neonatología y patología. Se ofreció cirugía ya que es el manejo mas común y mas aceptado de placenta previa percreta con invasión de vejiga.

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