

Placenta Percreta with Bladder Invasion, Report of a Case and Description of the Surgical Technique

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Abstract

Background: Placental accreta is the cause of obstetric hemorrhage and therefore of maternal morbidity and mortality, with the exponential increase in the rate of caesarean section, the number of cases of accretion increases proportionally, therefore attention in the management is fundamental for To reduce maternal mortality, various surgical techniques have emerged, all aimed at reducing associated complications.

Clinical Case: A 18-year-old patient with a pregnancy of 36 weeks of gestation with a history of a cesarean, went to the emergency department for pain-free transvaginal bleeding. During his stay, diagnosis was confirmed by ultrasound of partial placenta previa and placental accreta, however, by copious transvaginal bleeding is performed laparotomy observing placenta percreta with bladder invasion, caesarean-modified hysterectomy was performed, beginning with hysterectomy before fetal extraction, clamping of uterine arteries via abdominal and ligation hypogastric arteries, the newborn weighing 2320gr, carving 46 cm, capurro 36 weeks of gestation, APGAR 8/9, the total blood loss was 2500cc, he had 3 days of inpatient stay, the binomial without complications was discharged.

Conclusion: As a whole, the varieties of placental accreta are a serious entity, it is notable that the protocolized and sequential management decreases maternal morbidity and mortality, however, in an obstetric emergency scenario, with our surgical technique we have observed a decrease in maternal morbidity, days of intrahospital stay and injury to neighboring organs, surgical treatment as a challenge proportional to the surgical skill, the advent of new therapeutic techniques, make this report an alternative to consider.

Keywords: Acretism; Placenta Percreta; Previous Placenta; Placental Invasion, Cesarean-Hysterectomy

Background

Placental accreta is an alteration in the placental insertion in which there is an abnormal partial or total insertion of the placenta into the myometrium and by total or partial absence of the basal decidua as well as the incomplete development of the fibrin layer, called Nitabuch, determined by damage to myometrial tissues, either surgical or physical, followed by anomalous repair, conditioning the term abnormally adhered placenta, cause of massive obstetric hemorrhage and that in Mexico statistics reflect that it remains the first cause of maternal death, until 2017, the maternal mortality ratio was 32.6 deaths per 100,000 births; Up to 42% of the patients are operated performing the diagnosis during the transoperative, so that the clinical presentation in most cases is emergency obstetric, therefore the unattainable search for therapeutic alternatives in order to reduce morbidity and mortality maternal [1-5].

The history of uterine surgery is the most important risk factor, with cesarean section being the most associated procedure, it is known that the greater the number of lesions in the uterus, due to abnormal scarring, the higher the incidence of this event, with the diagnosis of placenta previa The risk of placental accreta in women with a history of cesarean section is 3% and 40% with a history of 3 caesarean sections [6]. Recent studies *in vitro* mention the increase in VEGF (vascular growth factor) with decrease in sVEGFR-2 concentrations, indicating the paracrine induction of neovascularization during the development of placental accreta, the destabilization of the immunoglo-

bulin tyrosine kinase and the epidermal growth factor Tie-2 together with its ligand Ang-2 are correlated to this pathology [7]. Therefore the history of caesarean section and the diagnosis of placenta previa has a very important relationship up to 88% for placenta accreta and up to 75% in percre Placental therapy [8,9].

Clinical Case

Patient of 18 years of age, who had a pregnancy of 36 weeks of gestation, with a history of a cesarean section 2 years ago due to eclampsia, who went to the emergency department of our unit due to the presence of transvaginal bleeding in a moderate amount, with bright red features, painless, perceived active fetal movements, denied vasospasm data, during physical examination, vital signs blood pressure 130/80 mmHg, heart rate 79 bpm, respiratory rate 19 rpm, temperature 36°C, normal uterine tone, fetal heart rate 143 bpm, performed speculscopy, finding transvaginal bleeding from the cervical os, no dilation was present, ultrasonographic screening was performed, abnormal placentation, marginal placenta previa, hospitalization was indicated, study protocol was integrated, and institutional ultrasound was performed reporting placenta partial pre-insertion, grad or III in the maturation scale of Grannum, ILA by Phelan method 18.2 cm, loss of placental myometrium interface, concluding with data compatible with placental accreta, blood count at admission reported hemoglobin of 12 g/dl, hematocrit 38% 225,000 platelets, normal coagulation times, in the presence of continuous transvaginal blood loss, is activated by the mater code, surgical preparation is indicated for cesarean-hysterectomy, table 1 description of the surgical technique General Hospital of Ecatepec, Dr. José María Rodríguez. During exploratory laparotomy, placenta percreta, jellyfish head in lower uterine segment, hypervascularization and trophoblastic invasion to bladder. Figure 1, trophoblastic invasion to the bladder. Fundic corporal hysterotomy is performed on the posterior side. Figure 2, obtaining a unique pelvic presentation product alive at 10: 26hr on 4/06/2018 man, size 46 cm, weight 2320gr, capurro 36 weeks of gestation, APGAR 8/9, ligature of umbilical cord leaving placenta *in situ*, later ligature of hypogastric arteries, total abdominal hysterectomy, due to trophoblastic compromise to bladder and impossibility to dissect it, inter-consultation to the general surgery service performing cystectomy with primary closure. Figure 3, subsequently a test was performed with methylene blue being negative, penrose drainage was placed in the pelvic cavity, the blood loss was 2500cc, with hemotransfusion of 4 globular packets and 2 fresh frozen plasmas, it was extracted and a surgical piece was sent to anatomopathological study. Figure 4 and 5, the hematic biology of postsurgical control reported hemoglobin of 12.2 g/dl, hematocrit 35.1% platelets 158,000, penrose drainage reported spending 20 cc at 24 hours, followed 3 days of in-hospital stay with stable clinical evolution, being graduated for clinical improvement, with transurethral silastic catheter for 21 days and antimuscarinic treatment with 4 mg per day, proceeding with favorable evolution without complications.

Step 1	Surgical preparation and initial approach infraumbilical and supraumbilical incision 4cm, dissection by plane to reach abdominal cavity, uterine and abdominal cavity exploration
Step 2	Uterine exteriorization, round ligament impingement, santorini plexus cut and ligature, Avascular window is made in wide ligament, pinzo-uterine ligament is cut and ligated, dissected anterior leaf de ligament Wide until reaching the vesicouterine stem, descending bladder with Pelosi technique with caution not to injure placental vessels, dry posterior leaf and dissection of uterine arteries.
Step 3	Hysterotomy body fundal in posterior face far from placental rim, fetal extraction, clamping, cutting and ligation of umbilical cord leaving the placenta in situ, hysterorrhophy in a single plane with Catgut chromic No 1
Step 4	Clamping of uterine arteries perpendicular to these and at the lower uterine segment level, double ligature with chromic catgut No. 1
Step 5	Bilateral ligation of hypogastric arteries, technique with digital dissection
Step 6	Bladder dissection, 3cm cystectomy and primary closure with Vicryl 000
Step 7	Ligature of Mackenrodt ligament ligation and reference, Heaney clamp is placed on each side at the level of the cervix, the surgical piece is cut and extracted, continuation of the habitual hysterectomy technique.
Step 8	Verification of hemostasis, Penrose type drainage placement in pelvic cavity, textile and instrumental material count, abdominal wall closure by planes.

Table 1: Description of the surgical technique used in General Hospital of Ecatepec.



Figure 1: Trophoblastic invasion to the bladder.



Figure 2: Fundic body hysterotomy on the posterior side.



Figure 3: Cystectomy.



Figure 4: Removal of surgical piece.



Figure 5: It is sent to the pathology service.

The perinatal evolution was satisfactory without needing interventions, being graduated binomial without complications.

Histopathological report: trophoblast tissue that penetrates the uterine wall to the serosa, placenta percreta.

Discussion

Placental accreta is a pathology that is increasing because of the high rate of cesarean sections. It is well established that the most important risk factor is the antecedent of uterine surgery. The majority of our population goes without prenatal control so timely detection fails, the diagnosis of placenta percreta conditions a medical challenge and high obstetric risk, usually asymptomatic, and there is no clinical syndrome for placental accreta, the symptoms are largely dependent by placenta previa or by invasion to other organs, to debut as an obstetric emergency and to be detected in more than half of the cases in the intraoperative period, observing in the laparotomy signs of accretism such as distortion or uplift of the lower uterine segment giving an appearance of jellyfish, placental tissue invading uterine serosa, massive hypervascularization in the lower uterine segment and placental invasion to other organs, which has led to the development of various therapeutic approaches in order to reduce associated complications such as uterine rupture by 3%, massive

transfusion by 40%, tran 90% blood transfusion, 28% infection, 5% ureteral injury, 5% urinary fistula, digestive tract lesions, massive obstetric hemorrhage, disseminated intravascular coagulation, maternal and fetal death [10,11], however, highlighting that if the detection is performed antepartum allowing a preoperative planning further decreases morbidity and mortality, the intentional search for risk factors during prenatal control, the use of ultrasound in the first trimester, the finding of a gestational sac implanted near the scar in the uterine segment should raise suspicion of accretion, the use of the Finberg and Williams criteria proposed in 1992 with the use of grayscale ultrasound, including studies reported in the literature as that of Chen., *et al.* who refer the use of color Doppler ultrasonography to detection in gestations of 9 - 10 weeks demonstrating blood lakes with flow and loss of the hypoechoic area so the Antenatal detection is directly proportional to success in treatment [11], additional studies as study protocol include magnetic resonance with a sensitivity of 77% and specificity of 96%, cystoscopy and placement of ureteral catheters to help in case of inadvertent injury, being in consensus the gestational age of termination at 34 - 35 weeks, the universally accepted treatment is total abdominal hysterectomy since the conservative treatment with methotrexate is controversial, Arulkumaran and Mussali reported 3 cases of placental accreta and use of methotrexate in which it was possible to preserve the uterus in two, currently according to a metanalysis in the management of the placenta accreta spectrum there is no convincing evidence about its use for which it should not be used, complications are also reported for the attempt to preserve the uterus, severe vaginal bleeding in 53%, sepsis 6%, secondary hysterectomy 19%, death 0.3%, for which each case should be individualized, regarding surgical management, the recommended currently is prior to performing a cesarean section, hysterectomy should be placed ureteral catheters, the initial approach is performed through an infraumbilical mid incision or Cherney type incision and inspect the pelvic cavity to assess signs of percretism, the ultrasound preoperative mapping to determine the placental location and carry out hysterotomy distant from the placental border, with the body hysterotomy of choice, after birth, cord ligature leaving placenta *in situ*, hysterorrhaphy and hysterectomy, avoiding the use of ligature of hypogastric arteries since It is a dependent operator consuming important time, however, in our patient it was performed because the technique we use is by digital dissection which, compared to the usual technique, is faster, it removes clamping of uterine arteries and hysterectomy is continued as usual, finally the results are reported with a decrease in bleeding with respect to that reported in the literature, without oscillation in terms of the hemoglobin figure at admission and discharge, decrease in days of in-hospital stay, postoperative complications, or injuries to neighboring organs, constituting a technique ancilla to save lives during an obstetric emergency, for this reason our interest in reporting the surgical approach successfully performed in the second level of care, where the limitations are high, not having interventional radiology, urologist, urogynecologist and other specialists who constitute multidisciplinary management, therefore gestations with timely detection should be completed in a tertiary hospital [12-18].

Conclusions

Overall, the varieties of placental accreta are a serious entity, it is notable that the protocolized and sequential management decreases maternal morbidity and mortality, however, in an obstetric emergency scenario, with our surgical technique we have observed a decrease in maternal morbidity, days of intrahospital stay and injury to neighboring organs, however, more comparative studies are needed to decide an ideal management, surgical treatment as a challenge proportional to the surgical skill, the advent of new therapeutic techniques, make this report an alternative to consider.

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