

DELAYED HYSTERECTOMY IN PLACENTA ACCRETA SPECTRUM DISORDERS (PAS): BETTER OR WORSE METHOD OF CHOICE?

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Abstract

There are not many management options at the time of delivery in patients with placenta accreta spectrum (PAS) disorders. We conducted a small observational study on such cases managed in our tertiary maternal care centre at University Obstetrics and Gynecology Hospital “Maichin Dom” in Sofia, Bulgaria, between January 1, 2019 and December 31, 2023. Caesarean section (CS) hysterectomy still seems inevitable in most cases where other conservative management techniques are strongly considered impractical.

Key words: Caesarean section hysterectomy, interval hysterectomy, intraoperative blood loss, adjacent organ damage

Introduction. Placenta accreta spectrum (PAS) disorders have always been considered a major obstetrical pregnancy complication, related to a huge patient perinatal morbidity and mortality risk. Not only does Caesarean section (CS)-hysterectomy still remain one of the greatest surgical challenges in obstetrics, but it also leads to loss of fertility in young women in their reproductive age [1–3]. Nowadays, more and more surgical options appear to be feasible in an attempt to reduce intraoperative blood loss and to preserve fertility, such as delayed/interval hysterectomy and/or various uterine reconstruction techniques. The major concern comes from the estimated high intraoperative risk, related to the huge blood loss due to the impossible complete detachment of the placenta [2]. Some clinicians nowadays would rather attempt a conservative surgical management with

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the aim to preserve the fertility of the patient and to reduce intraoperative complications [4–7]. However, a definite surgical technique has not been properly determined yet. The subject of our article aims to compare surgical outcomes in patients with usually performed CS-hysterectomy as a standard procedure and a single patient with interval hysterectomy.

Materials and methods. We observed 23 patients with PAS-disorders throughout a 5-year period between January 1, 2019 and December 31, 2023. All patients were admitted in and followed up at University Obstetrics and Gynecology Hospital “Maichin Dom”, which is the leading referral tertiary maternal care centre in Sofia, Bulgaria. We studied total intraoperative blood loss and the percentage of adjacent tissue and organ damage.

The presence of PAS-complications was determined according to the following criteria:

1. The presence of preoperative ultrasound (US) and magnetic resonance imaging (MRI) scans with positive criteria of morbidly adherent placenta [8, 9].
2. The presence of a positive postoperative histological result for a PAS-disorder.

Most of our patients – 22 out of 23 (95.6%) – underwent immediate CS-hysterectomy. Depending on the type of PAS-disorder, we did not opt for any conservative uterine wall reconstruction techniques [8]. Only one patient (4.3%) underwent a delayed post-CS hysterectomy after 3 months, in an attempt for fertility preservation, as well as to reduce an eventual huge intraoperative blood loss, expected at the time of the CS. An eventual spontaneous demarcation of the placenta with a gradual uterine involution could probably make hysterectomy an easier surgical procedure with a reduced uterine size. The patient presented a case of type 3 PAS-disorder with placental invasion of the lower uterine segment below the peritoneal reflection, according to the topographical classification of PAS-disorders [10].

We studied intraoperative complications such as total blood loss and the percentage of adjacent tissue and organ damage (urinary bladder, ureter and/or intestinal damage). All studied patients did not undergo preoperative uterine artery embolization (UAE), as it is not an established routine practice in our middle-income country where we lack the necessary instrumentation. We did not perform internal iliac artery ligation, either.

Results. All 22 out of 23 (95.6%) patients, preoperatively diagnosed with PAS-disorders, underwent an immediate CS-hysterectomy. Average intraoperative blood loss was estimated to be around 2423 ml. Nine out of 22 patients (41%) had adjacent organ damage during the procedure, injuries to the urinary bladder being the most common complications in 89% (8 out of 9 patients). Only one woman (11.1%) had a CS-hysterectomy with unilateral adnexectomy due to broad

ligament hematoma from varicose vessel damage at the time of the CS. We did not register any other adjacent organ damage, such as intraoperative injury to the ureter or small bowels.

The above-mentioned interval hysterectomy was performed almost 2.5 months after the CS, with an intraoperative blood loss of 3000 ml. Lesion of the vesical bladder wall could not be evaded.

Discussion. All studied patients did not undergo preoperative uterine artery embolization (UAE), as it is not an established routine practice in our middle-income country where we lack the necessary instrumentation. We did not perform internal iliac artery ligation, either. The total intraoperative blood loss proved to be less in patients with CS-hysterectomy, than in the case with interval hysterectomy ($p = 0.19$). Furthermore, CS-hysterectomy was accompanied by adjacent organ damage in a large percentage of cases, as there was adjacent organ injury in the performed delayed hysterectomy as well.

In the case with interval hysterectomy there were neither postoperative major bleeding episodes after the CS, nor any clinical or paraclinical signs for major postpartal infection. The control MRI, however, did not show any serious signs of spontaneous placental demarcation. There was persistent evidence for placental deep uterine wall invasion, even without a clear differentiation of the urinary bladder from the anterior uterine wall. The MRI outlined only intraplacental hypointensive zones, suggestive of mere placental degradation. Signs of hematometra were also present above the level of the placenta, probably due to the cervical obstruction by the placenta. The patient was therefore admitted in hospital almost 2.5 months after the CS for a delayed hysterectomy. She did not undergo a preoperative UAE procedure because of the lack of the necessary instrumentation.

Intraoperatively, at the time of the interval hysterectomy the uterus was found in subinvolution, with a persistent significant widening at the level of the subperitoneal lower uterine segment. Large varicose vessels were still present at the lateral uterine walls, the level of the parameter, and the level of the vesicouterine pouch. The placenta still seemed to protrude through the uterine wall towards the urinary bladder wall. The uterine walls, themselves, had a macroscopic appearance of inflammation with dull-coloured, easily-tearing surfaces (Fig. 1). The postoperative histological result confirmed the presence of placenta percreta.

Eventually, our small investigation did not prove any significant benefit of performing interval hysterectomy in case of a type 3 PAS disorder, and is therefore not considered an alternative to another type of a conservative surgical management, such as a partial myometrial resection followed by uterine wall reconstruction, for example [2,6,7,10]. However, surgical techniques for uterine preservation still seem to require sufficient operative experience and we still expect results from future ongoing studies on intra- and postoperative short- and long-term complications of such conservative operative interventions.



Fig. 1. Macroscopic appearance of inflammation with dull-coloured, easily-tearing surfaces

Conclusion. Interval hysterectomy for PAS disorders after a CS is not considered a good surgical practice. New fertility sparing surgical techniques, eventually involving a partial myometrial resection with a further uterine wall reconstruction, depending on the type of PAS disorder, need to be established in the near future.

Ethics approval. Ethics approval was obtained from University Obstetrics and Gynecology Hospital “Maichin Dom” with protocol No. 2023/5.

Consent to participate. We received informed consent for participation in data analysis from each patient, approved by our local ethical board.

Availability of data and materials. The datasets used and/or analyzed in relation to the current work are available from the corresponding author upon reasonable request.

Author contributions. K. Neykova wrote the main manuscript and did most of the statistics, together with the other colleagues from the team. S. Slavov contributed to the selection of the cases and the acquirement of the statistical data. Ts. Popova helped for some of the statistical information gathering and the analysis. All authors reviewed and approved the final version.

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