

## Delayed hysterectomy: a laparotomy too far?



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There is no doubt that the incidence of placenta accreta spectrum (PAS) disorders is rising and that this is linked to rapid increase caesarean delivery rates worldwide.<sup>1</sup> The associated risks of maternal morbidity and mortality has encouraged increasing research into the safest methods for managing this complex condition.

The retrospective study by Zuckerwise et al<sup>2</sup> highlights not only the need for more evidence regarding the safest method of management but also the difficulties involved in making an appropriate comparison between different grades of this spectrum disorder. Their paper examines the outcomes of 34 women found to have invasive PAS (increta/percreta) at the time of delivery who were managed by either immediate hysterectomy or delay hysterectomy via laparotomy 4–6 weeks later. They conclude that delayed hysterectomy may reduce the incidence of massive hemorrhage.

As Zuckerwise et al<sup>2</sup> state in their introduction, the International Society for Abnormally Invasive Placenta (IS-AIP) commented on the paucity of evidence for delayed hysterectomy in their recently published intrapartum management guideline.<sup>3</sup> The IS-AIP concluded that “there is no evidence of benefit of planned delayed hysterectomy, and the potential complications of performing a second intentional surgical procedure in a stable patient, outweigh the benefits.”<sup>3</sup> This recommendation was primarily based on the data available for successful expectant management (leaving the placenta in situ).

The largest case series of expectant management published to date is a multicenter retrospective study of 167 cases of abnormally invasive placenta in 40 French teaching hospitals.<sup>4</sup> This study reported successful expectant management, defined as uterine preservation, in 78% of cases. However, only 68 of the 167 women had their entire placenta left behind, and the study does not report whether these women were more or less likely to need a subsequent hysterectomy.

However, of note the median time to delayed hysterectomy in the case series was 22 days (9–45). Therefore, all of the hysterectomies required in the French study had occurred by 6 weeks and 3 days.

This raises the question if the woman is stable and well 6 weeks following her delivery, does she really need a planned second laparotomy and hysterectomy with all the subsequent morbidity and prolonged stay in hospital? Especially as by this timepoint her initial incision will be relatively well healed and she has an infant to care for and bond with. Surely continuing with expectant management by this stage would be the appropriate course of action? This appears to have occurred in the Vanderbilt cohort<sup>2</sup> for one woman who declined her planned delayed hysterectomy and then re-presented 2 years later with a subsequent pregnancy.

Much of the criticism levelled at the French study is based on the heterogeneity of the population and the lack of histological confirmation of PAS and in particular on the differential diagnosis between adherent and invasive grades. This led an expert review group to conclude that there may have been bias toward partial or focal PAS cases.<sup>5</sup> This may be true because 99 women had only part of the placenta left behind; however, histopathological examination confirmed the diagnosis of PAS in all immediate (18 of 18) and all but 1 delayed hysterectomies (17 of 18), demonstrating that the intrapartum diagnosis was reliable.<sup>4</sup>

The requirement by obstetricians to have a histopathological diagnosis of PAS significantly affects studies investigating any management strategy other than hysterectomy, and although the pathologists can confirm accreta, increta, or percreta, they are not able to take into account vital surgical markers for morbidity such as excessive neovascularity and invasion into the cervix, pelvic sidewall, or other viscera.

The pathology findings also depend on which part of the specimen is sampled. Different parts of the placental bed can have different levels of invasion with all 3 types of PAS often coexisting in a single placenta.<sup>1</sup> This can lead to a pathology report that is in conflict with the obstetrician's findings.

All of this highlights the need for a standardized clinical grading system that not only correlates with the histopathological diagnosis but also takes into account the degree of surgical complexity. Such a classification system has recently been proposed by International Federation of Gynecology and Obstetrics (FIGO).<sup>6</sup>

This provides 3 grades of severity for PAS with clear descriptions of the findings at both vaginal delivery and laparotomy (including cesarean deliveries) given for each grade. Grade 1 correlates with accreta or abnormal adherence, grade 2 with increta, and grade 3 percreta. The third grade is then divided into 3a, 3b, and 3c according to the invasion of surrounding structures. The use of this grading system should enable appropriate comparison of management strategies

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without the requirement for histopathology and provide information of which type of PAS is amenable to different management strategies.

Another issue with expectant management is the huge variety of additional interventions described in the literature that have been used as adjuncts. These include methotrexate, which was directly responsible for a maternal death in the French case series,<sup>4</sup> pelvic devascularization, and embolization. This has resulted in confusion regarding both patient selection and actual management strategy.

Prophylactic arterial embolization appears popular despite there being no evidence for efficacy and 2 reported cases of uterine necrosis in the literature.<sup>7,8</sup> Consequently, it is not recommended by the IS-AIP.<sup>3</sup> The potential damage of embolization in this situation is biologically plausible because necrosis will ensue if there are insufficient collaterals to supply the uterus. If there is a significant amount of neovascularization, embolization will briefly reduce the blood flow before the collateral circulation reestablishes blood supply to the placenta. This may result in an ischemic-reperfusion injury, making morbidity such as infection, tissue necrosis, and fistulae formation more likely. Is it possible that we as clinicians, being unable to sit on our hands and do nothing, are potentially worsening the outcome of conservative management?

There are many different strategies for managing PAS. As its name suggests, it is a spectrum disorder, so it is unlikely that 1 single method can provide the definitive management plan. Outcomes are also directly linked to the depth and lateral extension of the accreta villous tissue.

To fully understand the risks and benefits of the different strategies available and guide women through this difficult, potentially life-threatening disorder, more high-quality

studies of management strategies are required. These studies need to appropriately describe their techniques including all adjuvants used and define the intrapartum grade of PAS according to the FIGO classification system. Only then will we be able to truly know which management strategy is most appropriate for which cases of PAS and avoid potential iatrogenic morbidity from unnecessary interventions. ■

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