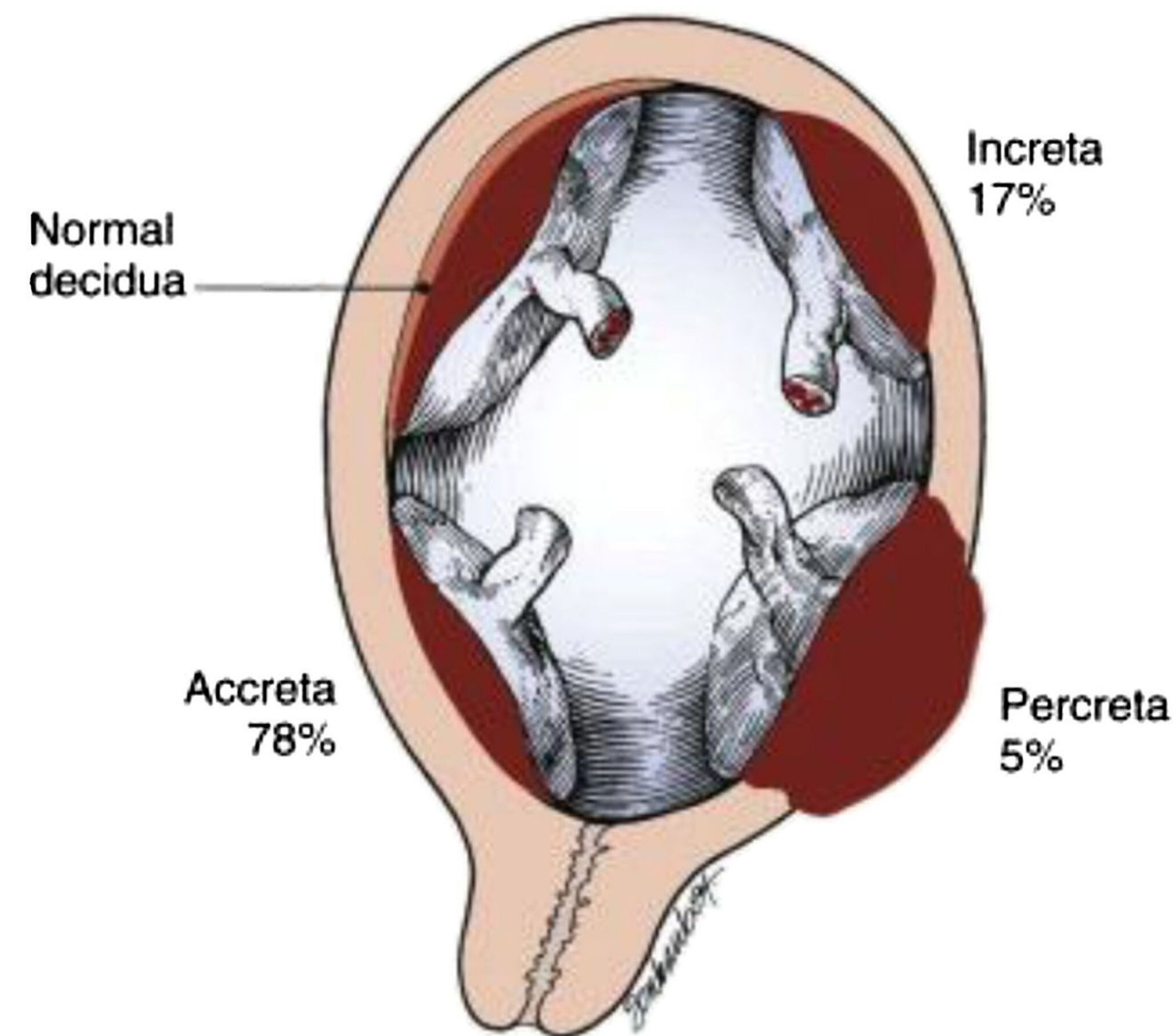


Optimal management to reduce morbidity and mortality involves case-by-case considerations by a skilled multidisciplinary team, but optimal timing of placental removal remains unclear. The Obstetric Case Consensus on PAS, endorsed by The American College of Obstetricians and Gynecologists (ACOG) and Society for Maternal Fetal Medicine, outlines three possible courses of management:¹

- **Cesarean hysterectomy:** with the placenta left in situ, performed immediately after delivery of the fetus
- **Uterine preservation/conservative management:** removal of placenta or uteroplacental tissue without removal of the uterus
- **Expectant management:** leaving the placenta either partially or totally in situ, or only the placenta that spontaneously separates is removed before uterine closure

Delayed Interval Hysterectomy (DIH) is a newer hybrid technique of expectant management followed by a planned hysterectomy up to six weeks later, typically preserved for percreta patients, which compromise 5-7% of all PAS cases.²



https://link.springer.com/chapter/10.1007/978-981-10-4953-8_38

wall invasion. She underwent a planned cesarean hysterectomy, a successful delayed interval hysterectomy, a multidisciplinary approach with Maternal Fetal Medicine, cystoscopy by Urology, REBOA sheath placement by Interventional Radiology on standby, and a tracheal intubation and care. The estimated blood loss was 1500 mL. The patient and neonate experienced no sequelae. The patient required one unit of packed red blood cells. She had CAUTI from the indwelling foley; she otherwise recovered well.

DIH, Special Considerations

- Uterotonics are avoided, as the goal to keep the uterus open
- A planned DIH can convert to a CH anytime
- Patients must be extremely reliable for close follow-up
- Prophylactic antibiotic use has not shown benefit
- Methotrexate use to encourage placental separation has caused at least one maternal death³

myometrium.⁴

Future fertility desired

Future fertility desired

Complications Shellhaas et. al. (2009): transfusion of red blood cells (84%) and other blood products (34%), fever (11%), subsequent laparotomy (4%), ureteral injury (3%), and death (1.6%).⁵

Palacios Jaraquemada et al. (2004): 68-patient case series, complications included lower ureteral injuries (n=2), vesical fistula (n=1), hematoma in the vaginal cuff (n=1) and uterine infection (n=1).⁶

Clausen (2013): 58% risk of hysterectomy up until 12 months after delivery⁸

Sentilhes et. al. (2010):

- 28% (47/167) Infection or febrile morbidity
- 6% (10/167) Severe morbidity: sepsis, septic shock, peritonitis, uterine necrosis, fistula, injury to adjacent organs, acute pulmonary edema, acute renal failure, or deep vein thrombophlebitis or pulmonary embolism, or death

Legendre et. al. (2014): 11/12 patients had complete removal of retained placenta after conservative management followed by one (5/12), two (2/12), or three (4/12) hysteroscopy procedures; One patient required a secondary hysterectomy.⁷

Blood Loss Lee et. al. (2017):
- EBL median mL [range], 2800[400–4500]
- # PRBCs, 2[0-10]²

Conclusion

No randomized prospective study exists comparing the maternal outcomes of traditional cesarean hysterectomy to alternative techniques. Our best evidence at this time suggests DIH should be offered selectively to the highest risk percreta cases. While this method has been shown to decrease blood loss, it still comes with a high risk of severe maternal morbidity and mortality, and should only be performed in a multi-disciplinary manner at fully equipped hospitals.

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