

UTERINE HEMOSTATIC SUTURES

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BACKGROUND AND LITERATURE REVIEW

As an alternative to hysterectomy in the face of severe postpartum hemorrhage, several techniques of uterine compression suturing have been described. Suturing is a mechanical method of compressing the uterine musculature and closing the arterial bed, which leads to reduced bleeding. The primary and most frequent indication for these procedures is the patient with an atonic uterus who is hemodynamically-challenged but stable and who desires the possibility of future reproductive capability.

Various authors have described several techniques. The most common is the B-Lynch technique where thick absorbable sutures such as #1 Chromic are anchored in the lower segment with a large loop going over the fundocorneal region and down posterior to just above the cardinal ligaments, across to the opposite side, back up over the fundocorneal region, and anchoring and tying in the lower uterine segment. (1) Hayman described a simpler but similar procedure using two separate transfundal sutures. (2) Other techniques of multiple square sutures through the uterine body have been described, but reports of adhesions and abscesses have been published and have dampened support. (3, 4)

The reported efficacy must be estimated by using the case reports and series published to date. A Canadian series by Baskett reported that during a 7-year period, 28 uterine compression sutures were performed (1 per 1,126 deliveries). Of note, all were used after cesarean delivery and use was more frequent in non-elective cesarean (1 in 221) than in elective cesarean deliveries (1 in 637). The procedure avoided hysterectomy in 82% of cases. (5) Success rates are similar to smaller reports. (6, 7) Based on these types of experiences, one can recommend usage of the technique in clinical situations and that preparations, equipment and training are available in all obstetrical units. (8, 9) Published reports show use of this technique in the following cases: 1) atony unresponsive to standard treatments at cesarean section; 2) atony unresponsive to standard treatments after vaginal delivery; 3) placenta previa; 4) localized placenta accreta; 5) prophylactic use in "high risk" patients (high multiples, suspected accreta); and 6) with other adjunct treatments for PPH such as intrauterine balloons.

Several questions require further clinical research to clarify the role of compression suturing in clinical practice such as: 1) what is the best suture material; 2) what are complication rates for

short and long term sequelae and what are the appropriate techniques; and 3) what is the efficacy for various types of hemorrhage?

RECOMMENDATIONS

1. Uterine hemostatic suturing should be available in all obstetrical units.
2. Staff Education: all delivery providers at the institution should be made aware of the steps included in the technique; appropriate protocols for the timing and method of usage should be added to institutional policies and procedures. Diagrams with the technique and indications for usage clearly posted may be helpful.
3. Appropriate supplies for the technique should be immediately available to surgeons.
4. The obstetrical staff should keep abreast of further research developments as to the most effective technique and indications for hemostatic suturing.

EVIDENCE GRADING

Level of Evidence: II-3 A. Evidence obtained from multiple time series with or without intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence. Strong quality improvement data, such as statistical process control or other well-designed analysis. Recommendations based on high quality and consistent evidence.

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