Management of Intraoperative Haemorrhage in Pelvic Organ Prolapse Repair: A Report of Two Cases

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Abstract. Acute haemorrhage following pelvic reconstructive surgery is a complication that requires immediate evaluation and treatment. Most researchers describe the perioperative morbidity associated with complex surgery for prolapsed pelvic organs, but to date, no studies have reported on the management of acute haemorrhage during surgery. This case study describes two cases of acute bleeding during complex repair prolapsed pelvic organs and different management approaches.

Studies suggest a 1.75% risk of pelvic haematoma following complex surgery for pelvic floor prolapse (1). This has been a particular issue since the introduction of novel surgical techniques (Farnsworth’s mesh techniques) and mesh kits that use a variety of biomaterials in order to reduce the high rate of recurrences commonly seen in normal repair surgery (2). The potential for life-threatening pelvic haemorrhage exists during the transobturator dissection and sacrospinous ligament (SSL) fixation procedures, where the vasculature posterior to the ligament is intricate and obturator vessels (and nerves), as well as the plexus of veins within the endopelvic fascia, are easily damaged (3, 4). The procedure is performed blindly with trocar passing where the vascular network is very rich (5).

This case study reports two cases of bleeding that occurred during repair surgery using a mesh procedure (6) with SSL fixation, both of which were successfully managed.

Case One

A 44-year-old woman with stage 3 uterus-vaginal prolapse, according to the Pelvic Organ Prolapse Quantification staging system (POP-Q score), underwent a posterior repair with fixation of the cervix to the sacrospinous ligament, using tunnellers to place the fixation. Polypropylene prostheses (Gynemesh-Soft PS, 10×15 cm; Gynemesh, Gynecare, Ethicon, Somerville, NJ, USA) were used to reconstruct the recto-vaginal fascia. Significant blood loss (>500 ml) occurred during the operation because of venous bleeding from the pararectal venous complex. The bleeding persisted despite attempts to stop it. The vagina was packed with dry plain gauze and the patient was closely monitored postoperatively. The postoperative condition of the patient was satisfactory and her vital observations were acceptable, although she had severe rectal pain. A transvaginal ultrasound carried out the following day confirmed a 5×7 cm left pelvic pararectal haematoma protruding into the bladder. The vaginal pack was removed two days later and the patient was discharged without further intervention.

Case Two

A 64-year-old woman, with a stage 4 vaginal complete procidentia underwent a total vaginal reconstruction and fixation to the sacrospinous ligament. Polypropylene prostheses (Gynemesh-Soft PS, 10×15 cm; Gynemesh), were used to reconstruct the neocervix and the recto-vaginal fascia. The procedure involved dissection to the arcus tendinous of the fascia pelvis, the ischiatic spine and the SSL. Mesh prostheses were attached to the SSL for level I support of the vaginal vault. A separate posterior mesh was inserted to reconstruct the recto-vaginal fascia. Significant blood loss (>1000 ml) occurred during the operation and the patient required three units of blood. Despite a further two units of blood, her vital observations were unstable and she
had increasing right-side pelvic pain. A computed tomographic scan showed a 15×17 cm right pelvic pararectal haematoma imposing on both the bladder and the right kidney. An angiography was performed which confirmed arterial bleeding from the right inferior gluteal artery which was injured during the operation. Selective embolisation of the right inferior gluteal artery was performed (Figure 3). The condition of the patient was stable thereafter and she was subsequently discharged without further intervention.

Discussion

With increasing numbers of new surgical techniques being introduced, caution must be practised in the interests of patient safety and it should be ensured that any new procedure is as efficacious, less invasive, or offers lower morbidity as compared with current practice. In both cases, patients underwent sacrospinous colpopexy with polypropylene prostheses using our previously described technique (6).

The two cases reported here show that acute haemorrhage can occur during surgery because of complex dissection into vascularised areas of the pelvis, where access is compromised. The first case demonstrated that simple packing with gauze was able to resolve venous ooze and should be the first line of management in cases where the locality of the ooze cannot be traced to a specific bleeding point. In cases where the bleeding cannot be identified, the use of arterial embolisation is valuable in the management of acute haemorrhage during pelvic reconstructive surgery, particularly where the bleeding is from deep within the pelvis and access and visualisation are difficult (7). Therefore, it is recommended that complex surgery of prolapsed pelvic organs should be performed preferably in hospitals where arterial embolisation is available or easily accessible.
References


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