

A case report on management of a rare complication of abdominal sling surgery-presacral venous bleeding

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Abstract

Presacral venous bleeding is an uncommon but potentially life threatening complication of generally occurring during rectal surgery but is extremely rare during sling surgeries for uterine prolapse. The timely management of bleeding along with blood transfusion using appropriate method is important to save the life before the patients land up into DIC and related consequences. Here described a case of excellent management of a complication of presacral venous plexus bleeding occurred during Soonawala's sling surgery for uterine prolapsed using traditional pelvic packing along with coagulopathy correction by the team of operating Gynecologist, general surgeons and Anesthetist.

Key Word: presacral venous bleeding.

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INTRODUCTION

Complications are known to occur during any surgical procedure. They could be anesthesia related or surgery related. But the correct and timely management can prevent the morbidity and mortality arising out of these complications. Here we are presenting a case report on a complication of pre-sacral venous bleeding occurred during abdominal sling surgery managed excellently at our institute by operating gynecologists, general surgeons and anesthetist by traditional pelvic packing method along with management of coagulopathy f/b laparoscopic pelvic pack removal without creating any additional port.

CASE

A 25 years old P2L2 with tubal ligation done patient with stage 3 of uterine prolapse according to POP-Q classification given by International Continence Society was posted for conservative sling surgery-Soonawala's Sling Surgery. She was not having any cystocele or rectocele along with uterine prolapse. The procedure was started in spinal anesthesia. During surgery the pre-sacral venous plexus got avulsed resulted into torrential hemorrhage. Due to which the patient went into hemorrhagic shock due to which she was shifted to general anesthesia and started on inotropic support both dopamine and noradrenalin and transfused 2 pint blood immediately. We tried to find the source of bleeding and catch it but we were unable to do so immediate intraoperative surgery call was given and till the time the surgeon arises tight manual pressure was given. Surgeons tried to control the bleeding by hemostatic sutures and bulldog clamps but the bleeding couldn't be controlled. Hence the decision of pelvic packing was taken. The pressure was given over pre sacral venous plexus with the help of 12 roller gauzes tied to one another and whole of the pelvic cavity obliterated and the one end of this pelvic pack is brought out of abdominal cavity. Abdomen closed after keeping an intra-peritoneal drain. Total blood loss of the patient was 4000ml and Total 6 pint blood and 4 pint

FFPs transfused to the patient along with 5 hexstarch. Postoperatively patient was shifted to surgical ICU and kept on ventilator and ionotropic support. The decision of removing abdominal pack was planned after hemostasis is confirmed depending on drain output and vitals of the patient and she was started on higher antibiotics i.e. Injection Piptaz 4.5 gms twice daily as well as injection Tranexamic acid 500mg twice daily.

Table 1: The Daily course of Events of the patient was as follows

Days	Ionotropic Support	Ventilatory Support	Drain Output
Day 1	Yes On Dopamine and Noradrenalin	Yes - VAC	700 cc Blood Stained
Day 2	Yes On Dopamine and Noradrenalin	Yes - VAC	600 cc Serosanguinous
Day 3	Yes Only on Noradrenalin	Yes - CPAP	200 cc Serosanguinous
Day 4	No	No- Weaned	50 cc Serous

On day 4 patient was weaned off ionotropic support and ventilator support with drain output of 50 cc which was totally serous and her vitals were completely stable. Till the time patient was given total of 10 pint blood and 14 pint FFPs. Hence the laparoscopic re-exploration and pack removal was planned on next day. The laparoscopic re-exploration and pack removal was planned under general anesthesia. The 10 mm laparoscopic port was inserted in the abdominal cavity through the drain site without creating any additional incision. And the end of pack which was kept out was gently pulled under direct vision and again an intraperitoneal drain was kept through the same site. The pack was successfully removed and sent for culture sensitivity report. Patient did not need any ionotropic or ventilatory support post operatively. Transfused one more pint blood slowly. Started on oral sips on day 2 and soft diet on day 3. The culture sensitivity report suggested no organisms. The new drain was removed on day 3 when the drain output became nil. All her laboratory investigations came normal which were repeated on post-operative day 3. The sutures were removed on day 10 and patient was discharged on postoperative day 12 with the plan of doing her vaginal hysterectomy 1 year later. Patient called for follow up after one month was absolutely normal with no neurological complaints.

DISCUSSION

Soonawala's Sling Surgery is a conservative sling surgery for nulliparous or young uterine prolapse. It is open, static and right sided sling surgery which is done with the help of mersilene tape. In this procedure one end of tape is anchored to posterior aspect of isthmus brought out through 2 leaves of right broad ligament and then tied to anterior longitudinal ligament. The advantage of this surgery is that there are decreased chances of sigmoid colon and mesenteric injury. The known complications of this surgery is damage to neurovascular bundle which can lead to paraplegia or potential presacral venous bleeding (PSB). The anatomy of presacral venous system makes it vulnerable to serious bleeding that can often be difficult to control. The presacral venous plexus runs into the pelvic fascia that covers the anterior aspect of sacrum. It is formed by the 2 lateral sacral veins, the middle sacral vein and the inferior communicating veins. These veins are avascular and communicate via the basivertebral veins with internal vertebral venous system. The PSB is a rare complication in abdominal sling surgery but its incidence is about 3-9.4% in rectal surgeries. Bleeding due to injury to the presacral venous plexus is very difficult to control. Ligation of the internal iliac artery is not effective and can cause gluteal and vesical necrosis and ligation of the internal iliac vein makes venous drainage of its tributaries difficult, as it leads to increase in pressure on the sacral plexus and exacerbates bleeding. This hemorrhagic type of bleeding can be managed traditionally by pelvic packing and now –a-days by pelvic vessel embolization. Pelvic packing is the conventional method which controls PSB effectively and may be life-saving. It is done with the help of multiple laparotomy pads, silastic tissue expanders, perineal sengstaken Blakemore tube, sterile saline bag filled with around 850ml of saline can be used. Other techniques like tacking techniques, topical hemostatic agents, and direct/indirect electro coagulation and suture can be used. Drainage and compression are the first maneuvers to be carried out due to poor access and visibility in the pelvis. Although a multitude of strategies have been employed successfully to control bleeding, it is imperative to consider the stability of the patient when using potentially time consuming techniques to control such hemorrhage. When a patient begins to develop the triad of acidosis, coagulopathy and hypothermia decision of pelvic packing should be considered for rapid control hemorrhage and prevent further deterioration. Surgical packing is often seen as a 'bail-out' technique for managing pelvic haemorrhage when the surgeon is unable to control by conventional haemostatic techniques such as suturing. The pursuit of complete primary haemostasis in a patient who is haemodynamically unstable is neither sensible nor

realistic and, in these cases, more definitive surgery can make the patient more moribund. Packing creates a physical tamponade within the bony and fascial structures of the pelvis itself. The key to this manoeuvre is to pack the true pelvis (below the pelvic brim) and not the false pelvis (above the pelvic brim): in fact, packing above the pelvic brim has minimal tamponade effect, since the major venous bleeding occurs in the plexus of vessels in the true pelvis

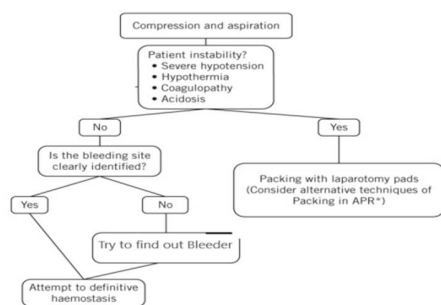


Figure 1:

The risk of re-bleeding, the increase in infection, the predisposition to dehiscence if the plug is placed adjacent to an anastomosis, and longer hospital admission are the main disadvantages of this procedure.

CONCLUSION

To conclude the presacral venous plexus bleeding is rare but life threatening complication generally occurring during rectal surgeries and debulking pelvic malignancy surgeries but is extremely rare during uterus conserving abdominal sling surgeries and timely management of this dreadful condition is important before the patient lands up into coagulopathy, acidosis, Hypothermia or death.

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