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Case Report

Laparoscopic Management of Pelvic Puerperal Abscess

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ABSTRACT

Puerperal infections are a leading cause of morbidity even in the present era especially in developing countries. With advent of potent antibiotics most of the cases are managed conservatively; however resistant cases still warrant a surgical exploration. Traditionally it meant laparotomy, however with improving minimal invasive techniques and skills laparoscopy might be a suitable alternative in properly selected patients. We report our experience of successful management of one such case laparoscopically.

Key words: Puerperal infection, pelvic abscess, laparoscopy.

INTRODUCTION

Puerperal infection is the leading cause of maternal morbidity following childbirth and/or abortion especially in the developing world; however despite significant advances in diagnosis, medical management and antimicrobial therapy, sepsis in the puerperium remains an important cause of maternal death. In developed countries like UK the incidence is around 10 deaths per year 1 but in developing countries like India this incidence is much higher. [1] The majority of pelvic infections are related to cesarean deliveries, they are very rare following vaginal delivery. During labor, birth or abortion, prolonged rupture of membranes, multiple internal examinations, meconium staining, internal fetal or uterine activity monitoring, retained products of 37 conception, retained placenta and uterine perforation are all risk factors for genital tract infections and 38 postpartum procedures like manual removal of placenta etc. Here we are reporting a case of puerperal pelvic abscess following normal delivery managed laparoscopically.

CASE SUMMARY

A 27years old female (P1L1) was referred to us with the following chronology.

Patient had a full term normal delivery followed by retention of placenta for which manual removal of placenta was done at some private hospital. Four days post procedure the patient worsened and was toxic with USG pelvis showing collection in the pelvis (? Abscess) and the patient were managed conservatively for around 4 weeks with various combinations of antibiotics (cephalosporin, aminoglycosides, metronidazole, meropenems).

The patient however did not respond to this medical line of management and had persistent fever, increase frequency of micturition, dysuria and abdominal pain and

presented to our hospital. Physical examination revealed a febrile patient (101 ^{0}F) with lower abdominal tenderness and frank pyuria on catheterization. The local perineal examination was grossly normal. The uterus was nearly normal size but tender and deviated to left.

Investigation revealed anemia (Hb 8 gm), leucocytosis (TLC 18,000), and frank bacteuria on urinalysis. CECT abdomen &pelvis revealed a 9X6X6.5 cm thick walled right sided pelvic collection abutting posterolateral wall of urinary bladder and sigmoid colon pushing the uterus on left side. (Picture 1&2).

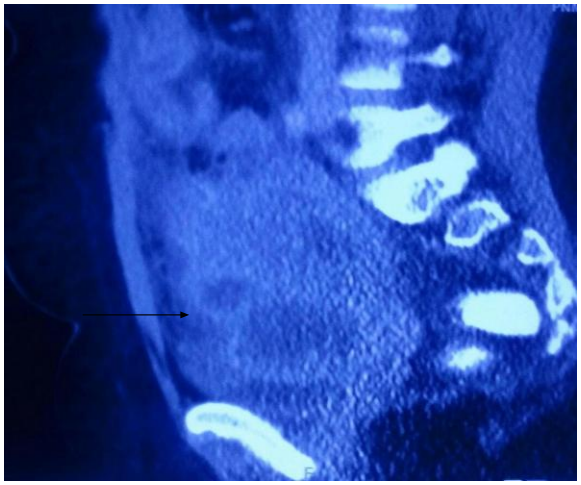

Figure 1 Sagittal view showing the pelvic collection (arrow)

Figure 2 Axial View showing the collection (arrow)

She was undertaken for emergency laparoscopic pelvic abscess drainage, intraoperative findings were:

Right sided pelvic abscess (approx 10X9cm) anterior to uterus abutting the bladder adherent to bowel & omentum. There were multiple loculi of pus in whole abdomen. Bowel adhesiolysis was done, pelvic abscess was drained, followed by total laparoscopic hysterectomy + right salpingo-oophorectomy to eradicate septic foci. While draining pelvic abscess, a perforation was seen on supratrigonal area of bladder which was communicating with abscess. Bladder repair was done in two layers. Peritoneal cavity was thoroughly irrigated and suctioned. Intraperitoneal drain was kept. Her post-operative period was uneventful. Foley's catheter was removed after 2 weeks. On follow up visit patient is doing good.

DISCUSSION

The predominant theory on pelvic abscess formation postulates an ascending infection from the cervix through the uterus to the fallopian tubes and ovaries. The infection may be a result of sexually transmitted diseases or an instrumentation of the female genital tract.

Patients usually present with pain, fever, adnexal mass or tenderness. Ultrasonography of the pelvis is routinely done as a part of initial work up, however it has its limitations as it is operator dependant, however its easy availability often makes it the preferred initial radiological tool. CECT scan is a better examination as it is more sensitive (78-100% sensitivity) than ultrasound (sensitivity of 75 - 82% [2]) and also by providing a holistic anatomical relationship it provides surgeon with a roadmap for surgery.

Medical management (or conservative management) consisting of bed rest, fluid, electrolytes replacement and broad spectrum antibiotics, is appropriate for management of majority of pelvic abscess patients. Surgical intervention is required for few patients who do not show prompt clinical improvement or if there are features of toxemia and abdominal signs or if radiology

shows mutiloculated large collection. Surgical therapy is necessary in about 25% of patients treated for pelvic abscess. Abscess more than 8 cm are less likely to respond to medical management.

Till now the gold standard surgical approach was laparotomy with procedures ranging from a simple drainage of the abscess, to adnexectomy, or even hysterectomy, depending on the clinical scenario. With increasing popularity of minimally invasive surgery, there is an emerging role of laparoscopy as a therapeutic modality for management of pelvic abscess. [(3)]

In support of laparoscopic management of pelvic and paracolic abscess (after complicated appendicitis), Goseman et al. [(2)] found that laparoscopic compared with open surgery was associated with lower readmission rates for surgical complications. Laparoscopic management provides the routine postoperative advantages of laparoscopic surgery like lower post-operative score, early oral intake, early ambulation, early recovery with subsequent early return to home.

Also Ciftci et al. [(3)] reported that VAS of pain was significantly higher in the open surgical group with a higher need for analgesia compared to laparoscopic group.

Recently Rolholtz et al. [(4)] studied management of pelvic and paracolic abscess after diverticular disease found that laparoscopic approach results in less post-operative morbidity.

In recent pelvic abscess (<3 wks duration) fresh adhesions are easily broken up. After aspiration of purulent fluid, the ovary appears white and intact in most cases. The fallopian tube can be seized and mobilized to free the fimbriae, which are frequently glued to the ovary by the discharge. After being rinsed with saline and antiseptic solution, the adnexa can be left in the pelvis and with polyvalent antibiotic treatment, will recover in few days. It should be unnecessary to perform tubal or ovarian resection.

In pelvic abscess of long duration (>3 wks) the adnexa appears as a dense mass, and the tube and ovary are glued together, to other pelvic organs, and to the lateral parietal wall by fibrous adhesions that cannot be broken up. Depending on the patient's age and parity, treatment is either conservative aspiration of purulent fluid or (often difficult) adnexectomy; which is probably preferred in multiparous women. The rationale for immediate adnexectomy is supposed quicker recovery and shorter follow-up than after conservative surgery.

We found in our case since the abscess was >3 weeks duration, it was extremely difficult to do a thorough adhesiolysis and a complete drainage of septic foci without removal of uterus hence intraoperative decision of hysterectomy was taken. Also of importance is that a primary bladder repair was done with 3-0 vicryl in 2 layers in the same sitting in contrast to what is currently established in the literature.

The usual dictum of bladder repair (e.g. in VVF repair etc) says that the repair should be done after 4-6 weeks since the infective edematous bladder tissue may give way and reopen if a primary repair is done bit in our case we choose to do a primary repair as even though the suture was cutting through the edematous bladder tissue it managed to hold on and the repair could be concluded in single surgery. Silicone catheter was inserted for 2 weeks subsequently. The catheter was removed after 2 weeks and the patient recovered fully with no other sequel. With this primary repair we could avoid a second surgery and prolonged morbidity for the patient.

CONCLUSION

Laparoscopy offers the possibility to diagnose and manage pelvic abscess more early, safely and probably cost-effectively in view of early recovery. It mandates further exploration in suitable patients over the gold standard procedure of laparotomy so as to enable its efficient use.

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