

Abdominal Cocoon – A Potential Disaster In Patients With Previous Surgical Scar Undergoing Laparoscopy

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Abstract

Abdominal cocoon is of obscure etiology resulting in the formation of matted bowel loops, encased in a dense fibrous sheath, sometimes stuck to the parietes. This interesting condition could result in bowel injury during minimal access surgery, at introduction of a laparoscopic trocar.

INTRODUCTION

Laparoscopic trocar injuries can involve any visceral organ such as bowel and great vessels. Generally, they are on the fall, in view of precautions observed. These depend on the skill and experience of the operating surgeon. Pitfalls do occur despite the care taken. We present a case of trocar injury to the bowel due to intra abdominal cocoon formation.

CASE REPORT

A 32-year-old lady presented with primary infertility. She was being evaluated for the possible cause of infertility. As part of the work-up, assessment of tubal patency was scheduled to be done by laparoscopy.

On examination, she was healthy except for a 4cm lower midline scar, 3cm below the umbilicus. Details of surgery were not available. She had probably undergone elective excision of a subcutaneous lump (e.g., lipoma) under local anesthesia 5 years back. She was otherwise free of any medical illness.

On table, difficulty was experienced in introducing the Veres needle. Hence, the procedure was abandoned. She was planned for fluoroscopic tubal insufflation later. She developed abdominal pain, distension, vomiting and fever on the third post-operative day. On examination, she had tachycardia and her abdomen was tender on palpation.

Ultrasonography of her abdomen showed free fluid which, on aspiration, was purulent and foul-smelling. On laparotomy, around 1200ml of purulent peritoneal fluid was present. Dense adhesions with cocoon formation of the bowel getting stuck to the parietes were present which, after

meticulous and careful dissection, revealed a 2x2mm perforation in the antimesenteric border of the jejunum. The patient improved after bowel resection and anastomosis.

This case calls for careful assessment to rule out the probable case of adhesion formation due to any kind of previous surgery even if it seems to be an insignificant scar. The laparoscopic procedure was attempted as the scar was small and farther away from the umbilicus, with the assumption that even if there were any adhesions, they would be well away from the site of insufflation. This was proved incorrect, as in this case the previous surgery had led to cocoon formation and to the resultant bowel injury.

DISCUSSION

Diagnostic laparoscopy is of most value in the evaluation of infertility and for completing the gynaecological investigation of obscure cases of chronic pelvic pain. Its use to exclude ectopic pregnancy, salpingitis and pelvic cancer is more controversial. The management of some cases of primary amenorrhoea is aided by laparoscopic gonadal biopsy. The excessive demand for female sterilization will ensure that the laparoscope continues to be used for this purpose and is leading to a compromise. The surgical techniques which have been proved to be most effective are being replaced by methods favoured for their potential reversibility and rapid patient turn-over¹.

Bowel injuries occur in 0.7/1,000 and major vascular injuries in 0.4/1,000. The overall incidence of major injuries at time of entry is 1.1/1,000². Safety shields and direct-view trocars cannot prevent serious injuries. Retroperitoneal vascular injuries should be largely avoidable by following safe

techniques. Bowel injuries often went unrecognized, in which case they were highly lethal³. It is noteworthy that the formation of abdominal cocoon is obscure in etiology. The presumption that the previous surgical scar was insignificant had led to the use of laparoscopy which had resulted in bowel injury in our case.

Increased experience by the surgeons has had three consequences: a statistically significant drop in the number of bowel injuries, a drop in the rate of complications requiring laparotomy for those laparoscopic surgical procedures that are well defined, and a change in the way complications are treated, with a significant increase in the proportion of incidents treated by laparoscopy⁴.

In non-obese patients, open trocar insertion (Hasson's technique) is favoured in view of the fewer complications⁵.

CONCLUSION

A previous surgical scar should always call for careful

consideration of laparoscopy with preferable open trocar introduction (Hasson's technique). A high index of suspicion for abdominal cocoon formation should be kept in mind in case of a previous surgical scar.

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