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CASE REPORT

Intra-abdominal giant infected seroma following laparoscopic inguinal hernia repair

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Abstract Seroma formation following open or laparoscopic mesh repair of inguinal hernia is common, albeit with no impact on recovery. One of the possible complication from such a seroma is infection. A patient presented with such an infective complication 6 years following a total extra peritoneal (TEP) repair of bilateral inguinal hernia. This report gives an account of its management.

Introduction

Seroma can develop following laparoscopic inguinal hernia repair by extraperitoneal (TEP) and transabdominal approach (TAPP) in up to 37 and 18 % of cases, respectively [1]. Most of these are of little clinical significance as they are self-limiting and seldom affect post-operative recovery. On the other hand, an infective complication of such seroma, especially if accompanied by infection of the mesh, can have significant impact. We report a case of giant infected seroma which required operative intervention for drainage and subsequent removal of mesh, following a bilateral total extra peritoneal repair (TEP) of inguinal hernia.

Case report

A 74-year-old man (body mass index 23) with past medical illness of hypertension and bronchial asthma was seen for a left inguinal hernia. Clinical examination revealed a right-sided direct inguinal hernia as well, and he underwent a bilateral laparoscopic TEP. At the time of surgery, a left indirect and a right direct inguinal hernia sac were identified and repaired using two 13 × 15 cm polypropylene (SURGIPRO^{TM} Polypropylene Mesh, Covidien) on each side, secured using Protack^{TM} fixation device. The operation was uneventful with an easily reducible hernia and no obvious bleeding. No drains were left and the patient was discharged on the day. He was subsequently reviewed in the clinic after 7 weeks and a year later with no evidence of wound site problems or recurrence.

Six years later, he presented with abdominal and right lower limb pain associated with increased frequency of micturition and nocturia. There was a mass palpable in the lower abdomen extending to both iliac fossa, but more on the right side. The mass was non-tender, immobile and confined to lower abdomen, with no extension to the groin or external genitalia.

A CT scan of the abdomen and pelvis showed a large cystic mass confined by a thick contrast enhancing rim with maximal dimension of 17 × 15 × 16 cm. On the wall of the cyst and at the centre were multiple densities consistent with surgical clips or implants (see Fig. 1). Blood tests showed evidence of active inflammation with elevated white cell count of 14 × 10^9/L and C-reactive protein (CRP) level of 34 mg/l. An open drainage of the encysted collection was performed under anaesthesia through a midline abdominal incision which drained nearly 3 l of pus and a large piece of mesh with no evidence of blood clots. A suction drain was left in the cavity (Exudrain^{TM}) and removed after 2 weeks when the drainage was less than 30 ml and serous in nature. Culture of the pus and mesh yielded *Pseudomonas* species sensitive to ciprofloxacin which was continued until the drain was removed.

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Fig. 1 CT scan showing collection of lower abdomen (*1*) with clips, (*2*) used to hold them floating with the mesh in the cavity

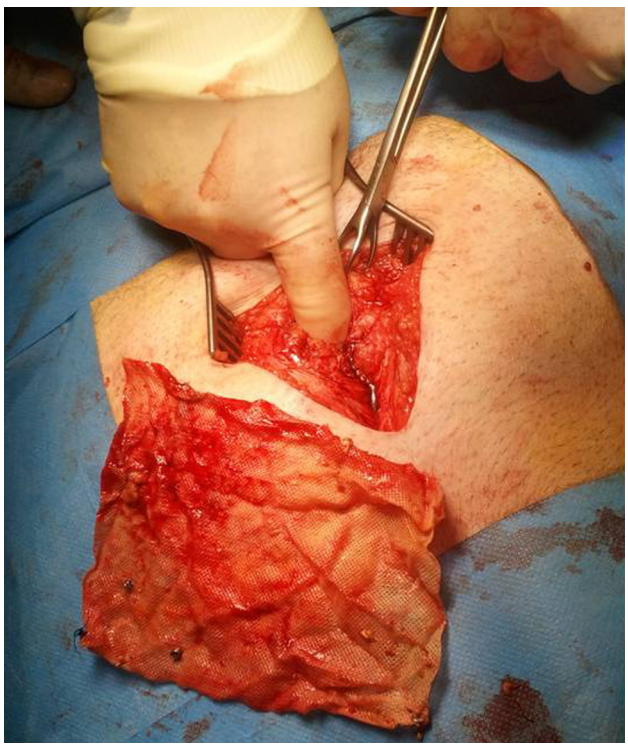

Fig. 2 Removal of mesh by a midline incision into the cavity which yielded pus

Four months later the patient presented with recurrence of collection in the cavity. This was confirmed by ultrasound which also raised the possibility of a second mesh in the abscess cavity. A second exploration of the cavity was performed under anaesthesia with gentamicin and metronidazole antibiotic cover, which duly revealed the second piece of mesh which was removed (see Fig. 2). A suction drain was left in the cavity and removed after a week and Ciprofloxacin cover for the duration of drain. The culture of the mesh and fluid from the cavity did not yield specific organism with sensitivity. At follow up 6 months later, there was no evidence of recurrence of symptoms or hernia.

Discussion

Six-year latency in this case implicates a possible large seroma which was clinically asymptomatic for years until infection supervened. It was possibly missed at clinical follow up at 1 year due to the intra-abdominal nature of the swelling with no obvious external component, despite the size and lack of symptoms. From the clinical history, the likely focus of infection that might have triggered the presentation is unknown.

Seroma formation following laparoscopic inguinal hernia repair is mostly small and reported as an acceptable problem which does not have a significant impact on recovery. A large case series of 450 patients who had TEP repair of inguinal hernia reported seroma formation in 7.2 %, most of which settled spontaneously in 2–3 months with no clinical impact on recovery [2]. Suction drain for 24 h after surgery reduced such seroma formation from 15 % in a control cohort to less than 1 %, although this will reduce the attraction of TEP being a day procedure [3]. From the literature, it was not possible to ascertain the risk of seroma infection leading to mesh rejection. In general, the reported rate of infective complications after laparoscopic hernia repair is less than 3 % [4]. Ogunbiyi et al. [5] reported a case series of giant mature cyst, all of which were secondary to incisional hernia repair using following polypropylene mesh repair. They emphasised the importance of operative management in such large collection and its possible origin as a seroma.

Screening postoperative patients for seroma formation is not advisable as majority have a very benign course. However, this case report aims to make the reader aware of such large encysted seroma with infection which has been reported in incisional hernia repaired with polypropylene mesh. An idiosyncratic response of the patient to the mesh is the possible cause considering the frequency of laparoscopic mesh repairs and relative rarity of such reports.

Conflict of interest BA declares no conflict of interest. AC declares no conflict of interest.

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