CASE REPORT JSLS

Bile Causing an Acute Scrotum Immediately After Laparoscopic Cholecystectomy

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ABSTRACT

We report our experience with a patient that developed an acute right hemiscrotum immediately after undergoing an uncomplicated laparoscopic cholecystectomy for gallbladder dyskinesia. The etiology of the acute scrotal pain was due to bile which was spilled into the peritoneum after entry into the gallbladder during dissection. The bile obtained access to the right hemiscrotum via a communicating hydrocele. To the best of our knowledge this is the first report of bile causing an acute scrotum following laparoscopic surgery. A review of the current literature on the topic of the postoperative acute scrotum follows our case presentation.

Key Words: Postoperative acute scrotum, Bile, Laparoscopic cholecystectomy

INTRODUCTION

Genitourinary complications related to laparoscopic procedures are rare. The English literature contains only 4 reports[1–4] of an acute scrotum after laparoscopic appendectomy. We report the case of a 25-year-old Caucasian male who developed an acute right scrotum secondary to bile within peritoneal fluid that entered the scrotum through a previously undiagnosed communicating hydrocele. To the best of our knowledge, this is the first case of an acute hemiscrotum presenting after laparoscopic biliary surgery. The rarity of this complication warrants its description.

CASE REPORT

A 25-year-old Caucasian male underwent an uncomplicated laparoscopic cholecystectomy for gallbladder dyskinesia. Approximately 10 mL to 15 mL of bile was spilled during the procedure after inadvertent entry into the gallbladder during its dissection from the gallbladder fossa. After the gallbladder was removed, the abdomen was irrigated until aspirated fluid was clear. The patient complained of severe right scrotal pain in the recovery room. Examination revealed a grossly normal right testicle that was exquisitely tender to palpation. The right cremaster muscles were noted to be in spasm. A urologic consultation was obtained. Emergent ultrasound revealed normal venous outflow and arterial inflow to the right testicle. The patient's complaints and examination were concerning for testicular torsion, and right scrotal exploration was performed 3 hours after completion of the laparoscopic cholecystectomy. Opening of the tunica vaginalis revealed 10mL of bile-stained fluid and a normal right testicle. The tunica vaginalis and right testicle were irrigated with saline, and a communicating hydrocele was identified and ligated. The testicle was pexed medially, laterally, and inferiorly. Postoperatively, the patient noted immediate relief of pain, and examination revealed minimal tenderness in the right scrotum. The total bilirubin value of the fluid drained from the scrotum was 10 mg/dL. The patient recovered and was discharged without further events on postoperative day 2.

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DISCUSSION

Genitourinary complications of intraabdominal procedures are infrequently described in the literature. We found only 4 cases of postoperative acute scrotum after laparoscopic procedures.[1–4] All 4 patients were found to have an acute postoperative hemiscrotum after laparoscopic appendectomy. The patients ranged in age from 7 to 20 years of age and presented with symptoms between postoperative day 1 and 10. Operative findings revealed a normal testicle with a scrotal abscess necessitating drainage. Scrotal abscess following open appendectomy has also been reported.[5–8] Acute postoperative scrotum due to early hernia recurrence has also been described in an infant after an open inguinal herniorrhaphy.[9] Yasumoto et al[10] reported a case of a 10-year-old male who underwent open appendectomy for perforated appendicitis on postoperative day 1 following incision and drainage of a left scrotal abscess. Infarction of the upper pole of the right testicle causing acute scrotal pain has been reported after a laparoscopic total extraperitoneal inguinal herniorrhapy.[11]

Bile causes peritoneal signs on examination in some patients with cystic duct stump leaks after cholecystectomy.[12] Although the mechanism of irritation is not fully understood, bile salt concentration and bacteria are thought to be possible causes of bile-induced abdominal pain.[13,14] The cause of acute scrotal pain in this case was due to bile within peritoneal fluid that entered the right scrotum through a communicating hydrocele. The fluid entered the right scrotum after spillage occurred while the patient was in a reverse Trendelenberg position with increased intraperitoneal pressure due to carbon dioxide insufflation. The possibility of bile causing the patient's pain was included in our differential diagnosis; however, with no prior cases reported in the literature and our concern for testicular torsion, we felt urgent exploration was indicated. Future management of a similar patient may include the option of percutaneous aspiration of the hydrocele with laboratory examination to determine bile concentration. If symptoms persist following aspiration, urgent scrotal exploration would be indicated to rule out testicular torsion.

CONCLUSION

The surgical literature is scattered with only a handful of reported cases of an acute scrotum developing after laparoscopic procedures. An acute suppurative process associated with laparoscopic appendectomy is the most common cause described to date. We have described the presentation of an acute right hemiscrotum immediately following laparoscopic cholecystectomy. The patient's symptoms completely resolved after urgent scrotal exploration with drainage of bilious fluid that entered via a communicating hydrocele. To the best of our knowledge, this is the first case of an acute scrotum due to bile after laparoscopic cholecystectomy. As the volume of minimally invasive procedures performed increases, so does the number of unusual complications that develop. Reporting of such uncommon disorders developing after minimally invasive procedures provides a reference that may potentially allow earlier recognition and treatment of similar complications by fellow surgeons in the community.

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