

Laparoscopy for Hemoperitoneum After Traditional Inguinal Hernia Repair

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ABSTRACT

Hemoperitoneum after inguinal hernia repair, with the exception of laparoscopic herniorrhaphy, is extremely rare. No other case of hemoperitoneum after traditional open inguinal hernia repair has been reported in the English-language literature. A 39-year-old woman had undergone inguinal hernia repair with the Bassini repair technique. Lower abdominal pain and anemia occurred on postoperative day 1. Laparoscopy was performed and revealed hemoperitoneum caused as a complication of inguinal hernia repair. The abdominal cavity was thoroughly washed with saline solution, and the aspirated blood was processed and reinfused. Laparoscopy for hemoperitoneum as a complication after inguinal hernia repair was very useful for both diagnosis and treatment.

Key Words: Inguinal hernia repair, Hemoperitoneum, Complication, Autologous blood transfusion.

INTRODUCTION

Hemoperitoneum after inguinal hernia repair, with the exception of laparoscopic herniorrhaphy, is extremely rare. We report the case of a 39-year-old woman with hemoperitoneum as a complication of open left inguinal hernia repair who subsequently underwent laparoscopy and required an autologous blood transfusion. In a MEDLINE search covering 1966 to December 2000 using the terms "hemoperitoneum," "inguinal hernia," "complication," and "intraperitoneal bleeding" we found no other case of hemoperitoneum after traditional inguinal hernia repair reported in the English-language literature.

CASE REPORT

A 39-year-old, gravid 3, para 3, woman had a 2-year history of left 3-cm inguinal tumor that was evident only when she stood up. She had undergone abdominal uterine myomectomy during pregnancy and an abdominal delivery of her first child 12 years previously. After a diagnosis of left inguinal hernia, open surgical intervention was proposed. A 6-cm left inguinal incision was utilized to perform a Bassini repair.¹ Although intraoperative bleeding was minimal (20 mL), lower abdominal pain and anemia occurred on postoperative day 1. The hemoglobin level fell from the preoperative value of 13.6 g/dL to 8.1 g/dL on day 2 and then to 7.3 g/dL on day 3.

A pelvic examination revealed bilateral lower abdominal tenderness. A urinary pregnancy test was negative (human chorionic gonadotropin <50 mIU/mL). Echography showed no ovarian enlargement but an echo-free space in the Douglas pouch. Culdocentesis yielded unclotted blood. Although the patient's vital signs were stable, emergency laparoscopy was performed on day 3 because of the suspicion of continuous intraabdominal bleeding.

With the patient under general anesthesia and in the lithotomy position, a 12-mm incision was made just below the umbilicus, and a 12-mm blunt Hasson trocar was inserted using an open technique.² Blood was noted in the abdominal cavity. A blood clot was found adhered to the left abdominal wall where the inner inguinal ring had been sutured; thus, this site was determined to be

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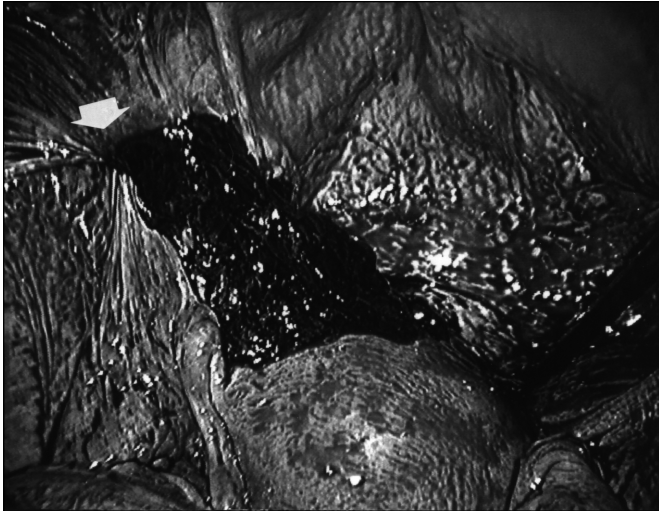


Figure 1. Laparoscopic view from the umbilicus. A blood clot was seen adhering to the left abdominal wall where the inner inguinal ring had been sutured (arrow). The left round ligament and left oophorosalpinx were pulled up to this site.

the site of bleeding. The left round ligament and left oophorosalpinx were pulled up to this site (**Figure 1**). No other bleeding site was noted.

Another 5-mm trocar was inserted in the right lower abdomen through which accumulated blood was aspirated. As no fresh bleeding was observed, it was decided not to disturb the abdominal content further. The abdominal cavity was thoroughly washed with 5 L of saline solution, and laparoscopy was completed with the placement of a drain at the site of the trocar insertion. The time of the laparoscopy was 75 minutes.

Aspirated blood was reinfused during the operation through a leukocyte-reduction filter (BPF4-BJ; Nihon Pall, Tokyo, Japan) after lavage with an autologous blood salvage transfusion apparatus (Cell Saver, Haemo Lite 2; Haemonetics Corp., Braintree, MA)³ as described elsewhere.⁴ The amount of salvaged blood was 800 mL, with 460 mL processed (concentrated) and reinfused.

Hemoglobin level increased to 9.2 g/dL on day 6. The postlaparoscopic course was favorable, and the patient received only intravenous iron chondroitin sulfate for anemia.

DISCUSSION

The Bassini repair¹ is used worldwide for inguinal hernia and has been a standard against which other repairs are judged. Among inguinal hernia procedures, some complications related to bleeding and hemostasis (hematomas and wide ecchymoses) are still frequent.⁵ But, a case of hemoperitoneum after traditional inguinal hernia repair, except for laparoscopic herniorrhaphy, has not been reported in the English-language literature. In this case, various examinations confirmed hemoperitoneum; but the cause and site, as well as whether bleeding continued, were not clear.

Laparoscopy has been widely used to observe the intraabdominal cavity and also to allow less invasive surgical treatments. We performed laparoscopy for diagnosis and management of hemoperitoneum. As the possible cause of bleeding could have been a complication of hernia repair or of a gynecological condition (ectopic pregnancy or ovarian bleeding), the first laparoscope was inserted below the umbilicus to observe the lower abdomen.

Retained blood in the peritoneal cavity is usually not clotted, but the bleeding site is sometimes covered with blood clot. In this case, a blood clot had adhered to the left inguinal region where the round ligament enters the peritoneum. Deep needle insertion during suturing of the hernia ring was thought to have damaged vessels in the mesosalpinx. As no fresh bleeding was observed during laparoscopy, additional treatment, such as suturing or electro-coagulation, was not needed for hemostasis.

Intraoperative autologous blood transfusions have been used in laparoscopic surgery for massive hemoperitoneum caused by ectopic pregnancy⁴ or traumatized spleen.^{6,7} Because the volume of blood loss in this case was estimated to be 1,500-2,000 mL (from the decrease in hemoglobin level), we utilized intraoperative autologous blood transfusion. It restored blood circulation and ameliorated the patient's anemia without any side effects.

We conclude that laparoscopy to manage hemoperitoneum after open inguinal hernia repair is very useful for both diagnosis and treatment.

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