

Intestinal Injury Secondary to an Umbilical Piercing

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ABSTRACT

Background: Body piercing has become increasingly popular throughout the world and may cause unanticipated complications during surgery.

Methods: We describe the case of a 35-y-old woman with hepatocellular carcinoma who underwent a diagnostic laparoscopy for metastatic disease evaluation.

Results: An early intestinal injury occurred upon abdominal entry and introduction of pneumoperitoneum. The injury was secondary to a single adhesion between the abdominal wall and small bowel caused by a previous umbilical piercing.

Conclusions: Umbilical piercing can lead to unanticipated intraoperative complications even if it is removed prior to surgery. Surgeons performing laparoscopy should be aware of potential pitfalls associated with these art forms.

Key Words: Body jewelry, Umbilical piercing, Laparoscopic surgery, Complications of pneumoperitoneum, Intestinal adhesions, Intestinal injury, Laparoscopy complications.

INTRODUCTION

Body piercing is a popular form of art in the United States (US). Reasons cited for having body piercings include peer pressure, a physical manifestation of one's individuality, or a commemoration of pivotal life events.¹ Umbilical piercings in particular are the third most common type after ear and nose piercings, with a gender ratio of nearly 10 to 1 in favor of women.² The presence of this type of jewelry, however, can lead to various complications in both the surgical and nonsurgical population.^{1,3,4,5,6}

We describe a case of intestinal injury that occurred during laparoscopic surgery in a patient with a history of umbilical piercing. Intestinal adhesions due to body jewelry have previously been described, but to our knowledge no reports on actual intestinal injury have ever been published.⁷

CASE REPORT

A 35-y-old woman with chronic hepatitis-B presented with worsening liver function tests. Other than her Asian ethnicity, her past medical and surgical history did not point to a cause for contracting hepatitis-B, such as blood transfusion, sexual contact, or previous body art. She had been asymptomatic without abdominal pain, weight loss, jaundice, pruritus, or any other systemic signs. Further workup included a computed tomography (CT) scan of the abdomen and pelvis that demonstrated an extensive infiltrating 14.2cm x 6.3cm mass involving nearly the entire left lobe of the liver and extending into the right lobe without evidence of metastatic disease. A CT-guided biopsy confirmed the tumor to be hepatocellular carcinoma. She was subsequently referred to our institution for surgical evaluation. She was scheduled for a diagnostic laparoscopy followed by an open resection of her liver mass, in case of the absence of metastatic disease. On the day of surgery, her abdominal examination revealed a very athletic build and a small umbilical scar from recently removed navel jewelry. The umbilical piercing had been placed in the previous 4 mo and was not removed in the interim despite the patient having been asked to do so. The patient was very scar conscious and had requested minimal cosmetic side effects should the surgery be lim-

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ited to the first portion. We therefore chose to enter the abdominal cavity through the small umbilical scar using an open "Hasson" technique and utilizing a 5-mm trocar to insufflate the abdomen. Upon insertion of the laparoscope, the intestinal lumen was viewed instead of the peritoneal cavity. Insufflation was immediately stopped but the trocar was left in place. The incision was extended around the umbilicus. Upon inspection, the patient had a loop of small bowel attached to her anterior abdominal wall at the site of her previous umbilical ring placement. The firm attachment remained intact even when the trocar was removed, confirming the pre-existing adhesion. This was taken down sharply and the enterotomy was closed in 2 layers. The small bowel was examined proximal and distal to this site and no other adhesions were noted. The fascial defect was closed around the 5-mm trocar that was left in place to regain pneumoperitoneum. Laparoscopy revealed a large tumor in the left lobe of the liver without evidence of intraabdominal carcinomatosis. A decision was made by the primary liver surgery team to proceed with the liver resection. The patient's postoperative course remained unremarkable, and there were no sequelae from the intestinal injury.

DISCUSSION

Body piercings remain a popular form of art and may pose risks during laparoscopic surgery, including electrical burns and local or systemic infections. Generally, all navel piercings are performed with the patient in the supine position, due to aesthetic rather than safety concerns. Body piercers in the US are not able to use anesthetic injections due to government regulations that limit their use to licensed health professionals. They also typically avoid using topical anesthetics due to safety concerns, e.g., allergic reactions, and the like. Nevertheless, other countries, such as the United Kingdom, allow body piercers to apply topical anesthetics, such as Xylocaine spray and other creams prescribed by a physician. Certain regulations still apply though. Topical anesthetics are generally discouraged for tongue piercings, and if applied, information on potential risks must be provided to the patient prior to the piercing.⁸

The presence of intestinal adhesions due to previously removed umbilical piercings has been reported in the past.⁷ However, the actual incidence of this complication or the presence of any associated symptoms remains unknown. This is of particular importance, because the umbilicus remains a favorite site for both body piercings and laparoscopic point of entry. Previous studies indicate that

laparoscopic bowel injury would most likely occur during the access phase, typically in patients who have had a history of adhesions or previous laparotomies, and carries a significant morbidity rate.^{9,10} There are several methods to gain access to the peritoneal cavity, each offering distinct advantages and drawbacks in terms of ease of entry or safety.^{11,12,13,14} A thorough discussion of this topic, however, is beyond the scope of our case report. The optimal entry technique also remains unclear. In this particular patient, our decision to utilize the small-sized open technique though her previous scar was directed by the patient's wishes and her favorable abdominal wall anatomy. At the time, our team was unaware of the potential for an intestinal adhesion following the removal of body jewelry. In retrospect, choosing a separate entry site in one of the upper quadrants, utilizing our customary optical trocar entry technique, and downplaying the patient's cosmetic concerns would have been more prudent and may have avoided this complication.

Surgeons performing laparoscopy should be cognizant of complications associated with navel piercings even long after their removal. The umbilicus and the scar left from jewelry remain attractive sites for the initial entry; nevertheless, careful consideration should be given to the potential presence of lingering intestinal adhesions that, in turn, may lead to major injury and additional morbidity. Therefore, we do not recommend utilizing past surgical or body-art scars as the initial port of entry into the abdominal cavity.

References:

1. Stirn A. Body piercing: medical consequences and psychological motivations. *Lancet*. 2003;361(9364):1205–1215.
2. Laumann AE, Derick AJ. Tattoos and body piercings in the United States: a national data set. *J Am Acad Dermatol*. 2006;55(3):413–421.
3. Meltzer DI. Complications of body piercing. *Am Fam Physician*. 2005;72(10):2029–2034.
4. Barkan D, Abu Fanne R, Elazari-Scheiman A, Maayan S, Beeri R. Navel piercing as a cause for *Streptococcus viridans* endocarditis: case report, review of the literature and implications for antibiotic prophylaxis. *Cardiology*. 2007;108:159–160.
5. Marenzi B. Body piercing: a patient safety issue. *J Perianesth Nurs*. 2004;19(1):4–10.
6. Jacobs VR, Morrison JE Jr., Paepke S, Kiechle M. Body piercing affecting laparoscopy: perioperative precautions. *J Am Assoc Gynecol Laparosc*. 2004;11(4):537–541.

7. Ventolini G, Kleeman S. Adhesions caused by umbilical piercing. *J Am Assoc Gynecol Laparosc.* 2003;10(2):281.
8. Tattooing and Body Piercing: Guidelines for prevention and control of infection. North Yorkshire Health Protection Unit. January 2007. (<http://www.nyypct.nhs.uk/AdviceInformation/InfectionControl/TattooingBodyPiercing.htm>).
9. Van der Voort M, Heijnsdijk EA, Gouma DJ. Bowel injury as a complication of laparoscopy. *Br J Surg.* 2004;91(10):1253–1258.
10. Bishoff JT, Allaf ME, Kirkels W, Moore RG, Kavoussi LR, Schroder F. Laparoscopic bowel injury: incidence and clinical presentation. *J Urol.* 1999;161(3):887–890.
11. Mayol J, Garcia-Aguilar J, Ortiz-Oshiro E, De-Diego Carmona JA, Fernandez-Represa JA. Risks of the minimal access approach for laparoscopic surgery: multivariate analysis of morbidity related to umbilical trocar insertion. *World J Surg.* 1997; 21(5):529–533.
12. Larobina M, Nottle P. Complete evidence regarding major vascular injuries during laparoscopic access. *Surg Laparosc Endosc Percutan Tech.* 2005;15(3):119–123.
13. Vilos GA, Ternamian A, Dempster J, Laberge PY. The Society of Obstetricians and Gynaecologists of Canada. Laparoscopic entry: a review of techniques, technologies, and complications. *J Obstet Gynaecol Can.* 2007;29(5):433–465.
14. Schäfer M, Lauper M, Krähenbühl L. Trocar and Veress needle injuries during laparoscopy. *Surg Endosc.* 2001;15(3): 275–280.