

CASE REPORT

OPEN ACCESS

Large metal retractor left in the abdominal cavity for 27 years after colorectal surgery

Alexandar Alexandrov, Lazar Jelev, Dimitar Nikolov, Lina Malinova, Stanislav Hristov

ABSTRACT

Introduction: Retention of surgical instruments in a patient's body after surgery is a rare but potentially dangerous error. **Case Report:** A case of a nearly 27-year long history of a patient with a large metal retractor in the abdominal cavity left accidentally after colorectal surgery is discussed here. **Conclusion:** In the modern surgical era, reports of surgical instruments left accidentally in the body are rare. A radiographic screening of the high-risk patients at the end of operation is still a valuable tool in the search for possibly retained surgical instruments.

Keywords: Foreign body, Abdominal cavity, Colorectal surgery, Postoperative radiographic screening

Alexandrov A, Jelev L, Nikolov D, Malinova L, Hristov S. Large metal retractor left in the abdominal cavity for 27 years after colorectal surgery. International Journal of Case Reports and Images 2013;4(4):228–231.

Alexandar Alexandrov¹, Lazar Jelev², Dimitar Nikolov¹, Lina Malinova¹, Stanislav Hristov²

Affiliations: ¹Assistant Professor, Department of Forensic Medicine and Deontology, Medical University of Sofia, Sofia, Bulgaria; ²Associate Professor, Department of Anatomy, Histology and Embryology, Medical University of Sofia, Sofia, Bulgaria.

Corresponding Author: Lazar Jelev, MD, Ph.D, Department of Anatomy, Histology and Embryology, Medical University of Sofia blvd. Sv. Georgi Sofiisky 1, BG-1431 Sofia, Bulgaria; Tel: +359-2-91-72-636; Fax: +359-2-851-87-83; Email: ljelev@abv.bg

Received: 11 July 2012
Accepted: 07 September 2012
Published: 01 April 2013

doi:10.5348/ijcri-2013-04-300-CR-9

INTRODUCTION

Retention of foreign bodies in a patient's body after surgery is a rare but potentially dangerous error [1]. It happens in 1 of every 1000 to 1500 intra-abdominal operations [2, 3]. Other authors estimate a lower incidence from 1 in 8801 to 1 in 18,760 operations at the non-specialized acute care hospitals [1]. Surgical sponges and instruments are the two basic groups of foreign bodies established [1, 4]. Herewith, we report a long history of a patient 'wearing' a large metal retractor in his abdominal cavity.

CASE REPORT

A 76-year-old male patient presented to us with severe unbearable abdominal pain and palpable hard mass in the right-lower quadrant of the abdomen. He gave a past history that in 1979, he was directed to a general surgery department following a recent episode of fresh rectal bleeding. After clinical examination, a rectal carcinoma was suspected. During routine transabdominal surgery performed on December 4, 1979, ulcerated rectal polyps were found, located 45 cm over the anorectal line and were completely removed by resection of the rectum and followed by coloanal anastomosis. The operation took about five hours. There were no complications in the early postoperative period. Soon after the operation, however, abdominal pain appeared, and an unclear abdominal mass was palpated occasionally on the right side. The explanation given by the doctors was that this was probably due to an abdominal hematoma. Because of the persisting symptoms, the patient underwent an abdominal X-ray examination by a portable machine, but no obvious pathology was found. During the following years, the

abdominal pain persisted with varying characteristics of location and intensity. In 2001, on an abdominal X-ray, the doctors spotted a large metal object on the right side of the pelvis. Despite being recommended an operation to remove the object, the patient waited for five more years before he agreed to have surgical intervention. When the patient came to us he had severe abdominal pain. On physical examination he was a moderately overweight with a blood pressure 140/80 mmHg, heart rate 82/min and respiratory rate 18/min. His laboratory examinations were hemoglobin 12.3 g/dL, white blood cell count $9.5 \times 10^3/\text{mm}^3$, platelets – $320 \times 10^3/\text{mm}^3$. On radiological examination, X-ray showed a large, clearly seen object of homogenous density located on the right side of the pelvic cavity (Figure 1). On November 9, 2006 as a result of strong, unbearable abdominal pain, the metal object was surgically removed from the abdominal cavity nearly 27 years after the initial operation. The surgical approach was by a typical midline laparotomy and the metal object was removed with ease, because no obvious tissue reaction was found over its surface. It was a large Russian made surgical retractor of Reverdin, measuring 28.5 cm in length, 7 cm in width and had a weight of 270 g. Postoperative recovery was uneventful and an immediate relief of the abdominal pain was noted. In the early and long-term follow-up (5 years) no related problems were noted. We do not have computed tomography (CT) scan or magnetic resonance imaging (MRI) of the patient.

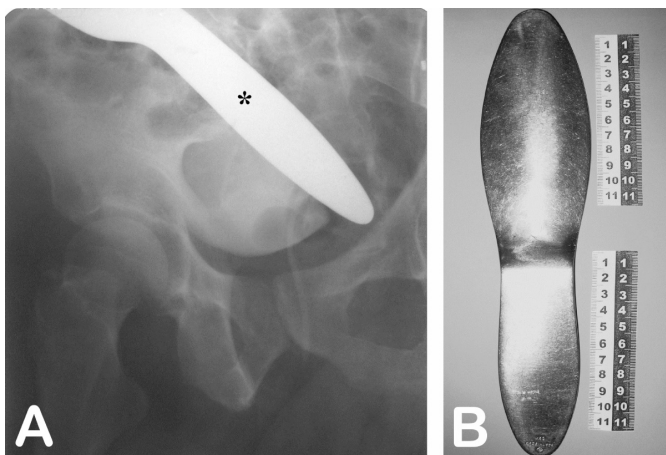


Figure 1: (A) The retractor of Reverdin inside the abdominal cavity (asterisk) seen on a plain radiography of the abdomen, and (B) after its removal from the body.

DISCUSSION

The most benign scenario for retained surgical instruments is when they are established immediately after surgery before complications develop. This is possible by counting the instruments carefully, by manual palpation of the opened cavity or, when necessary, by a postoperative radiograph or CT scan [1, 5, 6]. Despite the hospital standards recommended, emergency surgery operations or unexpected changes in

the surgical procedure are associated with a higher risk of retained instruments [1]. An extended stay of the instruments in the body can lead to a number of serious complications—infection and peritonitis, fistula or perforation, bowel obstruction and even death [1, 7]. A common clinical sign of surgical instruments left in the abdominal cavity is the pain [8]. It can be chronic, sometimes unclear, and with changing location because of the free movement of the instruments through the cavity.

The usual duration of retained bodies before their detection and retrieval surgery is several weeks to a few months [1]. However, in the surgical literature there are a few reports of extensive stay of the surgical instrument inside a body cavity—one of the longest known is 30 years [9]. The size of the retained surgical instruments may vary between small metal clips dropped accidentally and spilled in the abdominal cavity [7] to mid-sized dissecting forceps [10], artery forceps [8] and surgical spatula [11] to a large-sized ribbon malleable retractor [12] and retractor of Reverdin, as described in this case.

In literature, there are many documents and guidelines dealing with prevention of retained foreign bodies after surgery [1, 13, 14]. The following summary of these guidelines could be adapted to various practice settings:

1. Application of and adherence to standard counting procedures of instruments.
2. Meticulous visual and manual inspection of the operative field at the end of operation.
3. Obtaining intraoperative and postoperative X-ray in particular situations – after emergency surgery and unexpected changes in the surgical procedure, in obese patients, etc.
4. Suspicion of retained instruments during the early and long-term follow-up in surgical patients with unclear symptoms with following X-ray or CT scan.

CONCLUSION

In the modern surgical era, reports of surgical instruments left accidentally in the body are rare due to increased precautions and maybe underreporting of such cases because of possible legal consequences. The majority of surgical instruments used nowadays are still made of metal, so a radiographic screening of the high-risk patients at the end of operation should be considered. If some unclear symptoms appear later on, a plain X-ray investigation is still a valuable tool in the search for possibly retained surgical instruments.

Acknowledgements

The authors thank Ms. Elena Edward Fadel for the English proofreading of the text.

Author Contributions

Alexandar Alexandrov – Substantial contributions to conception and design, Analysis and interpretation of data, Drafting the article, revising it critically for important intellectual content, Final approval of the version to be published

Lazar Jelev – Substantial contributions to conception and design, Acquisition of data, analysis and interpretation of data, Drafting the article, revising it critically for important intellectual content, Final approval of the version to be published

Dimitar Nikolov – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Lina Malinova – Substantial contributions to conception and design, Acquisition of data, Drafting the article, revising it critically for important intellectual content, Final approval of the version to be published

Stanislav Hristov – Substantial contributions to conception and design, Analysis and interpretation of data, Drafting the article, revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© Alexandar Alexandrov et al. 2013; This article is distributed under the terms of Creative Commons Attribution 3.0 License which permits unrestricted use, distribution and reproduction in any means provided the original authors and original publisher are properly credited. (Please see www.ijcasereportsandimages.com/copyright-policy.php for more information.)

REFERENCES

1. Gawande AA, Studdert DM, Orav EJ, Brennan TA, Zinner MJ. Risk factors for retained instruments and sponges after surgery. *N Engl J Med* 2003;348(3):229–35.
2. Jason RS, Chisolm A, Lubetsky HW. Retained surgical sponge simulating a pancreatic mass. *J Natl Med Assoc* 1979;71(5):501–3.
3. Hyslop JW, Maull KI. Natural history of the retained surgical sponge. *South Med J* 1982;75(6):657–60.
4. Lincourt AE, Harrell A, Cristiano J, Sechrist C, Kercher K, Heniford BT. Retained foreign bodies after surgery. *J Surg Res* 2007;138(2):170–4.
5. Zappa M, Sibert A, Vullierme MP, Bertin C, Bruno O, Vilgrain V. [Postoperative imaging of the peritoneum and abdominal wall]. *J Radiol* 2009;90(7-8 Pt 2):969–9.
6. Gayer G, Petrovitch I, Jeffrey RB. Foreign objects encountered in the abdominal cavity at CT. *Radiographics* 2011;31(2):409–28.
7. Hussain S. Sepsis from dropped clips at laparoscopic cholecystectomy. *Eur J Radiol* 2001;40(3):244–7.
8. Reddy PK, Ramamoorthy R, Venkatsubramanian R, Muralidharan M. Laparoscopic removal of an artery forceps. *JSLs* 2003;7(3):261–3.
9. Bushuev VV, Komarov NV. [30-year presence of a foreign body in the abdominal cavity causing acute intestinal obstruction]. *Klin Khir* 1990;(4):67.
10. de Gier RP, Feitz WF. Surgical instrument migration from the abdominal cavity through the bladder into the vagina: a rare long-term complication. *Urology* 2002;60(1):165.
11. Karahasanoglu T, Unal E, Memisoglu K, Sahinler I, Atkovic G. Laparoscopic removal of a retained surgical instrument. *J Laparoendosc Adv Surg Tech A* 2004;14(4):241–3.
12. Rodrigues D, Perez NE, Hammer PM, Webber JD. Laparoscopic removal of a retained intra-abdominal ribbon malleable retractor after 14 years. *J Laparoendosc Adv Surg Tech A* 2006;16(4):369–71.
13. Recommended practices for sponge, sharp, and instrument counts. AORN Recommended Practices Committee. Association of periOperative Registered Nurses. *AORN J* 1999;70(6):1083–9.
14. Gibbs VC, Coakley FD, Reines HD. Preventable errors in the operating room: retained foreign bodies after surgery--Part I. *Curr Probl Surg* 2007;44(5):281–337.

Access full text article on
other devices



Access PDF of article on
other devices

