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Case Report

CASE REPORT

A complication to remember: stitch sinus following laparoscopic umbilical hernia repair

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Abstract

This report describes a diagnostic dilemma and what we believe to be a previously unreported case of a stitch sinus caused by the presence of a non-absorbable centring suture used during laparoscopic mesh repair of an umbilical hernia. Successful treatment was achieved through umbilical excision and removal of the offending suture; the patient's recovery thereafter was uneventful. Surgeons should be aware of this complication when consenting patients and should consider the use of absorbable sutures to minimize such risk in similar procedures. In addition, clinicians may add this to their list of differential diagnoses in a patient presenting with pain, discharge or what appears to be a recurrence of their hernia following laparoscopic mesh repair of an umbilical hernia.

INTRODUCTION

With growing interest in the laparoscopic approach to ventral hernia repair, it is important that trainees are taught to employ techniques that minimize risk to patients and optimize outcomes. Although they may seem trivial, stitch sinuses cause a significant degree of discomfort and morbidity to patients. They are blind-ended tracts—created by antigenicity or an infective process around a retained suture—which lead from the stitch to the skin surface where serous or purulent material may discharge.

This report describes what we believe to be a previously unreported case of a diagnostic dilemma whereby a centring stitch sinus mimicked a hernia recurrence of an umbilical hernia managed with a laparoscopic mesh repair. An alternative technique using an absorbable suture is suggested to reduce the risk of this complication.

CASE REPORT

A 50-year-old lady presented after failed conservative management for a previously reducible 2 × 3 cm umbilical hernia that had been present for 3 years; it had become more symptomatic and irreducible. Her medical history included two caesarean sections, non-insulin-dependent diabetes mellitus, chronic kidney disease and ischaemic heart disease; she was a non-smoker and non-drinker.

An elective laparoscopic mesh repair of the hernia was completed successfully using a Physiomesh (Ethicon) centred with a 3-0 prolene suture. To achieve this, a centre stitch is taken using a straight needle at the middle of the mesh. The mesh is then wrapped around the needle and inserted into the abdomen through a laparoscope port. Once in the peritoneal cavity, the mesh is unrolled and the needle is picked up and pushed out through the centre of the defect; the suture is used to lift the mesh into place before it is secured. The procedure is covered with a dose of prophylactic antibiotic given on induction.

Twenty-eight days later, she re-presented with discharge from her umbilicus. Examination revealed a pustulant umbilicus with a tender lump underneath. There was no evidence of hernia recurrence. A diagnosis of an infection at the umbilicus was made. Her condition did not improve with multiple courses

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of oral antibiotics despite swabs only reporting skin flora with no sinister bacteria. Nine months after her initial operation, she remained symptomatic with discomfort around her umbilicus. A computed tomography scan reported a potential recurrence of her umbilical hernia with significant induration of the soft tissues at the umbilicus suggesting subacute infection; the patient underwent an open exploration of the umbilicus with a view to excise it if necessary.

Intraoperative findings confirmed induration of subcutaneous tissues around the umbilicus. However, the mesh was intact and covered the umbilical defect with no recurrence of the hernia. There was a trace of thin fluid around the 3-0 Prolene suture used to centre the Physiomesh in the original operation and histological assessment of the excised umbilical specimen confirmed a sinus tract with florid reactive fibrous proliferation.

Of note, 2 months after her umbilical excision, the patient remains asymptomatic with a well-healed abdominal wound and no hernia recurrence; she is happy with her progress and has been discharged from our care. At our request for an insight into her recovery process, she wrote to us stating: 'I am pleased with the way it has all gone and the scar does not bother me, or the fact I do not have a belly button'.

DISCUSSION

Umbilical hernias are reported to be the second most prevalent of hernia in the UK [1] with umbilical and paraumbilical hernias currently accounting for around 14% of all abdominal wall hernia repairs [1, 2]. Mesh repairs are the prescribed method of management with an open or laparoscopic approach proving to have similar efficacies [2].

Laparoscopic surgery is becoming the more popular technique used in treating ventral abdominal wall hernias in adults [3]. It is advocated as a safe and effective alternative to conventional open methods due to shorter hospital stay, fewer post-operative complications, less recurrences and an overall better cosmetic result [4–6].

Published techniques for laparoscopic ventral hernia repair mention the use of non-absorbable sutures [7]. Stitch sinuses and wound pain are more prevalent when non-absorbable, multifilament sutures are used and are least often seen with monofilament, absorbable synthetics [8–10]. In addition, slowly absorbable sutures show no statistical difference in wound infection, dehiscence or incisional hernia formation when compared to non-absorbable sutures [8–10].

The rise in incidence of ventral abdominal hernias coupled with the body of evidence showing a stronger association between stitch sinuses, and the use of non-absorbable sutures leads us to advocate the use of an absorbable suture as the centring stitch in laparoscopic mesh repair of abdominal hernias. We advise that surgeons are aware of this complication whilst consenting patients and should consider the use of absorbable sutures to minimize such risk in similar procedures. In addition, clinicians may add a suture sinus to their list of differential diagnoses in a patient presenting with pain, discharge or what appears to be a recurrence of their hernia following laparoscopic mesh repair of an umbilical hernia.

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CONFLICT OF INTEREST STATEMENT

None declared.

REFERENCES

1. Dabbas N, Adams K, Pearson K, Royle G. Frequency of abdominal wall hernias: is classical teaching out of date? *JRSM Short Rep* 2011;**2**:5.
2. Kulaçoğlu H. Current options in umbilical hernia repair in adult patients. *Ulus Cerrahi Derg* 2015;**31**:157.
3. Pawlak M, Bury K, Śmietański M. The management of abdominal wall hernias–in search of consensus. *Wideochir Inne Tech Maloinwazyjne* 2015;**10**:49.
4. Wright BE, Beckerman J, Cohen M, Cumming JK, Rodriguez JL. Is laparoscopic umbilical hernia repair with mesh a reasonable alternative to conventional repair? *Am J Surg* 2002; **184**:505–8.
5. Wijerathne I, Liem D, Goel R, Wei Keat C, Lomanto D, editors. Laparoscopic ventral hernia repair: Clinical outcome and complications. *14th World Congress of Endoscopic Surgery and 22nd International Congress of the European Association for Endoscopic Surgery (EAES)*, 25–28 June 2014; Paris, France: Surgical Endoscopy; 2015;29:ppS76. Available from: http://link.springer.com/article/10.1007%2Fs00464-015-4136-7.
6. Misra M, Bansal V, Kulkarni M, Pawar D. Comparison of laparoscopic and open repair of incisional and primary ventral hernia: results of a prospective randomized study. *Surg Endosc* 2006;**20**:1839–45.
7. Ali A, Bhatia P, Kalhan S, Khetan M, John S, Bindal V. Double rolling and center hitch technique for laparoscopic ventral hernia repair. *J Minim Access Surg* 2013;**9**:95.
8. Ceydeli A, Rucinski J, Wise L. Finding the best abdominal closure: an evidence-based review of the literature. *Curr Surg* 2005;**62**:220–5.
9. Singh S, Singh V. Comparative study of non-absorbable versus delayed absorbable suture material and suturing technique in midline abdominal closure. *Int J Med Health Res* 2015; **2**:19–22. Available from: http://www.medicalsciencejournal.com/archives/2015/vol1issue2/1-1-32.pdf.
10. Mallikarjun P, Cheeti VS, Uske K. Comparison of absorbable extra long term poly hydroxy butyrate suture vs non absorbable (polypropylene) suture for abdominal wall closure. *J Evid Based Med Healthcare* 2015;**2**:4215–25. Available from doi:10.18410/jebmh/2015/920.