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Curious Case of Non-Healing Abdominal Wound

ABSTRACT

Port-site complications following laparoscopic surgery are uncommon but can present diagnostic and therapeutic challenges. Among these, a persistent port-site sinus is a rare occurrence, often resulting from chronic infection, retained foreign material, or atypical organisms. Early recognition and appropriate management are essential to prevent prolonged morbidity.

We report the case of a 33 year-old female who developed a chronic discharging sinus at the left lower port site following a laparoscopic myomectomy performed 1 year earlier. The patient presented with intermittent seropurulent discharge, local tenderness, and non-healing despite multiple courses of antibiotics. MRI imaging suggested Three sinus tracts are seen in the subcutaneous plane of the lower anterior abdominal wall on the left side in relation to the skin defects and in association with the cellulitis. Surgical exploration revealed three sinus tracts in left side of anterior abdominal wall is s/c plane. Histopathology showed chronic pyogenic sinus and NTM culture report confirms presence of NON TUBERCULOUS MYCOBACTERIA . The patient recovered uneventfully with complete healing at follow-up

Key words: Nontuberculous mycobacteria (NTM), Port-site infection, Laparoscopic surgery complications, Chronic discharging sinus, Non-healing abdominal wound

INTRODUCTION

Laparoscopic procedures are widely accepted due to reduced postoperative pain, shorter hospital stay, and better cosmetic outcomes. However, portsite infections (PSIs), though rare, can significantly affect postoperative recovery. Among these, infections caused by nontuberculous mycobacteria such as Mycobacterium fortuitum, M. chelonae, and M. abscessus are particularly challenging due to delayed presentation, resistance to standard antibiotics, and difficulty in microbiological isolation.

NTM are environmental organisms commonly found in water, soil, and hospital settings. Inadequate sterilization of laparoscopic instruments has been implicated as a major source of infection. We present a detailed case of NTM portsite infection with multiple interconnecting fistulae, diagnosed only after surgical excision and histopathological examination.

CASE PRESENTATION

A 33-year-old woman presented to the surgical outpatient department with complaints of persistent discharge from the left side of the abdomen for approximately four months. She had undergone laparoscopic myomectomy six months earlier at another center for symptomatic uterine fibroids. The immediate postoperative period was reportedly uneventful.

Two months after surgery, the patient noticed a small, painful nodular swelling at the left lower abdominal port site. This subsequently broke down to form a discharging sinus. Over the next few weeks, two additional openings appeared adjacent to the initial sinus, all discharging serous to seropurulent material intermittently. There was no history of fever, weight loss, night sweats, cough, or contact with tuberculosis.

She had received multiple courses of broadspectrum oral and parenteral antibiotics without significant improvement. Antitubercular therapy was considered but deferred as initial investigations were negative.

Clinical examination

- A 1 cm × 1.5 cm sinus opening at the left lower quadrant port site
- Surrounding induration and mild erythema
- Two adjacent sinuses present
- Thick, whitish discharge with granulation tissue at the opening
- No abdominal tenderness/guarding/rigidity

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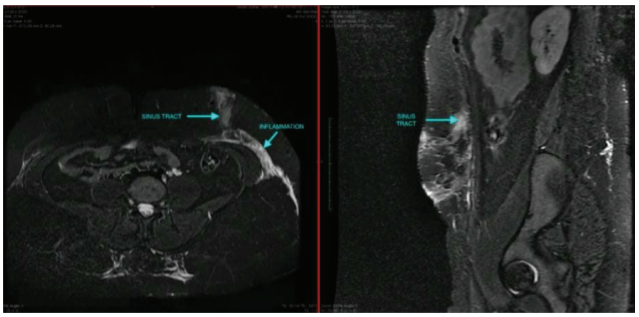
INVESTIGATIONS

- CBC: within normal limits
- ESR mildly elevated
- CRP: borderline elevated
- Routine bacterial cultures: no growth
- AFB smear: negative
- Fungal culture: negative

Given chronicity and poor response to therapy, an MRI of the abdominal wall was obtained.

MRI FINDINGS



Three sinus tracts are seen in the subcutaneous plane of the lower anterior abdominal wall on the left side in relation to the skin defects and in association with the cellulitis measuring approximately 5.6 cm in length and 7.5 mm in diameter. The second tract measures 5.3 cm in length and 7.2 mm in diameter. The third tract measures 5.5 cm in length and 6.8 mm in diameter. These tracts appear isointense on T1 and hyperintense on STIR images on contrast injection to one of the openings reveal interconnection between the tracts, with the contrast leaking through the other sinus openings. These tracts are seen extending from the skin surface to the rectus sheath on the left side without any obvious intra-abdominal extension or hollow viscus connection. The adjacent rectus sheath shows inflammatory and edematous changes.

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Multiple linear mildly thick walled sinus tracts (around 4 to 5 in number) seen in left anterior abdominal wall which are communicating with each other in subcutaneous plane. There is a small defect in the muscular plane measuring about 6 mm and tract is going deep to muscle layer in left iliac fossa region. There is illdefined collection (volume around 4 cc) beneath the tract in left lumbar region.

MANAGEMENT

Given the chronicity, failure of conservative management, and presence of multiple intercommunicating fistulae, a decision was made to proceed with surgical exploration and excision.

Surgical Findings

Intraoperatively, three sinus openings were found to be connected by fibrotic subcutaneous tracts forming a complex fistulous network. The tracts were confined to the abdominal wall and did not communicate with the peritoneal cavity. Complete excision of all fistulous tracts was performed with surrounding unhealthy tissue, and the wound was thoroughly irrigated.

The excised specimen was sent for histopathological examination (HPE), Genexpert, TBMGIT, Atypical, Mycobacteria, Nocardia and Actinomycosis

Histopathology and Final Diagnosis

Histopathological examination revealed multiple necrotising granuloma(probable mycocaterial etiology). Ziehl–Neelsen staining didn't demonstrated acidfast bacilli. Features were not typical of Mycobacterium tuberculosis.

Based on histopathology and clinical correlation, a diagnosis of portsite nontuberculous mycobacterial infection was established.

Postoperative Course and FollowUp

The postoperative period was uneventful. The patient was started on a tailored antibiotic regimen based on suspected NTM infection. The wound healed well by secondary intention. At sixmonth followup, there was no recurrence of sinus formation or discharge.

Discussion

Portsite NTM infections typically present weeks to months after laparoscopic surgery. The indolent course, absence of systemic symptoms, and poor response to conventional antibiotics often lead to diagnostic delay. Routine cultures and initial AFB staining may be negative due to the paucibacillary nature of the infection.

This case underscores several important points:

1. High index of suspicion is required for NTM infection in chronic nonhealing portsite sinuses.
2. Negative initial tests for Mycobacterium tuberculosis do not exclude mycobacterial infection.
3. Surgical excision not only aids in treatment but also provides adequate tissue for definitive diagnosis.

4. Histopathological examination plays a crucial role when microbiological tests are inconclusive.
5. Inadequate sterilization of laparoscopic instruments, especially with contaminated water used for rinsing, is a known risk factor for NTM infections.

CONCLUSION

Nontuberculous mycobacterial infection should be considered in any patient presenting with delayed, persistent portsite sinuses following laparoscopic surgery. Early surgical intervention with complete excision of sinus tracts and submission of tissue for histopathology can be both diagnostic and therapeutic. Awareness of this entity can prevent prolonged morbidity and inappropriate treatment.

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