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Port site infection by *Mycobacterium fortuitum* after laparoscopic hysterectomy and its management– A case report

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ABSTRACT

In the department of gynaecology vaginal hysterectomy and laparoscopic hysterectomy are popular methods of surgery. They involve less amount of blood loss, with short hospital stay. In recent times, laparoscopic hysterectomy is done commonly. Forty-two-year female was admitted in surgery ward, Tagore Medical College and Hospital, with pain in abdomen at the laparoscopic site and lower abdomen. Pus discharge through the port site, left loin for the last 3 months. The microbiological examination of the pus showed the presence of *Mycobacterium fortuitum*. After identification of atypical mycobacterium, the patient was administrated with amikacin injection for 3 months and clarithromycin and ofloxacin tablet for one year. Patient was discharged and was advised to come for periodical review.

Key words: Laparoscopic hysterectomy; Port site infection; *Mycobacterium fortuitum*

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INTRODUCTION

Laparoscopic surgery, which is also called as minimal invasive surgery, is popular with the patients and surgeons as it involves less pain, better aesthesis and short hospital stay.[1] This is now adopted for various surgeries like appendectomy, gastric surgery, gynaecological surgery, urological surgery and hernioplasty.[2,3] Hysterectomy is commonly done among gynaecological surgeries. Vaginal hysterectomy and laparoscopic hysterectomy are popular methods as they involve less amount of blood loss and short hospital stay.[4] In recent times, laparoscopic hysterectomy is done predominantly. In spite of its advantages this method has a complication of causing port site (PS) infection and its sequelae.[5] Also, this has difficulty in the identification of etiological agent and treatment of infection which needs an awareness of this problem. This case report discusses on port site infection after laparoscopic hysterectomy by atypical mycobacterium and its management.

CASE HISTORY

Forty-two-year female was admitted in surgery ward, Tagore Medical College and Hospital, with pain in abdomen at the laparoscopic site and lower abdomen. Pus discharge through the port site, left loin for the past 3 months. Severe pain and swelling in supra pubic area for nearly one month (Figure 1). Past history of laparoscopic hysterectomy which was done 5 months before.

On clinical examination, swelling in the supra pubic area was found with diameter 10x6 cm, fluctuant, with

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tenderness. Left loin had sinus which was discharging pus. MRI scan showed abscess in anterior abdominal wall.

Under spinal anaesthesia, abscess cavity was opened, 50 ml of pus was drained (Figure 2). Pus was sent for culture and sensitivity to microbiology diagnostic laboratory of our hospital. Left loin port site sinus tract was traced and was excised (Figure 3). The sinus tract was going up to rectus muscle. The whole sinus tract was excised.

The abscess cavity wound was left open to heal with secondary intension. The loin wound was sutured with a drainage tube. Excised tissues were sent for histopathological examination. Patient was given antibiotics and daily dressings were done. The drainage tube was removed after 48 hours. Left loin sutures were removed. After couple of weeks of suture removal, serous discharge started coming through the drainage tube site. Daily dressings were done and all the wounds were closed by secondary suturing.

Pus aspirate showed negative acid-fast bacilli (AFB) and no growth in the culture. The histopathological examination showed non-specific pyogenic infection with foreign body reaction. Mantoux test was done and was found negative.

The identification of MOTT (Mycobacterium other than tuberculosis) was done by automated BACTEC MGIT method. The pure culture thus obtained was subjected to acid fast staining showing acid fast bacilli (Figure 4). The bacillus was subjected to commercially available DNA strip assay (GenoType Mycobacterium CM/AS; Hain Lifescience, Nehren, Germany). The test is based on a PCR technique targeting a 23S rRNA gene region, followed by reverse hybridization and line probe technology. The results showed the presence of *Mycobacterium fortuitum*.

After identification of atypical mycobacterium, the patient was administrated with amikacin injection for 3 months and clarithromycin and ofloxacin tablets for one year. Meanwhile all sutures were removed and wound has healed. Patient was discharged and was advised to come for periodical review.

DISCUSSION

The atypical mycobacteria are commonly found in our environment and can contaminate the medical instruments

Figure 1: Port site infection – Preoperative condition

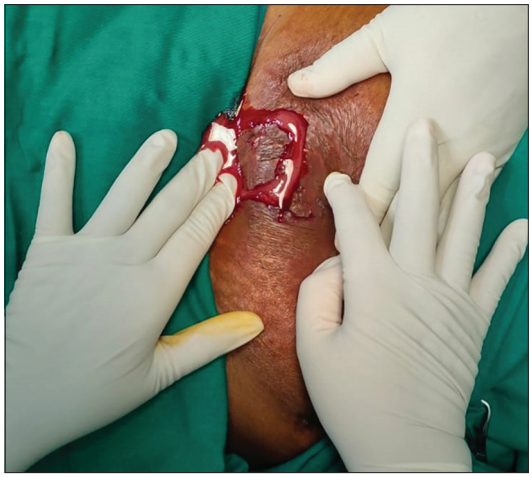

Figure 2: Surgery – Removal of pus

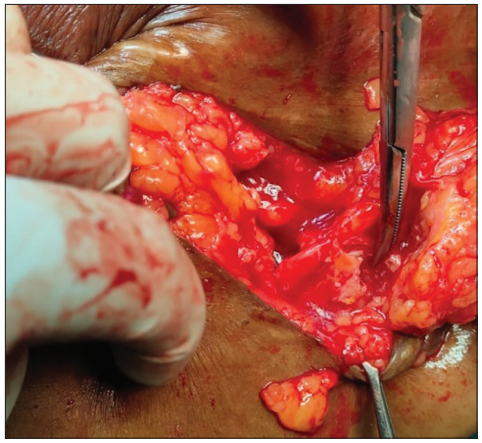

Figure 3: Sinus tract excision up to rectus muscle

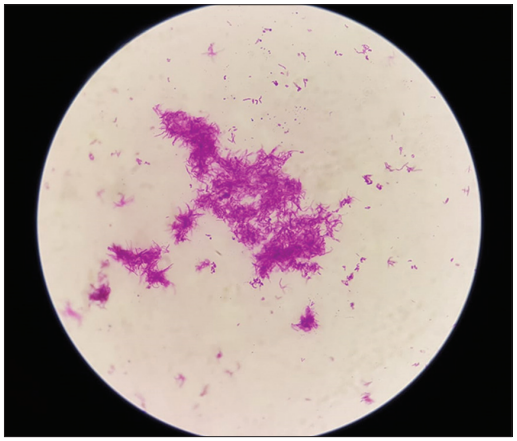

Figure 4: Acid fast staining showing acid fast bacilli

leading to infections.[6] One of the atypical mycobacteria involved in the port site infection is *M. fortuitu.*[7] The identification of such bacteria in the port site infection pose great challenge to surgeon and the microbiologists in diagnosis and treatment.[8] The port site infection due to *M. fortuitum* in laparoscopic hysterectomy is not much recorded in the literature.[9] The infection of atypical mycobacteria was suspected in this case as the infection was "late type" as the mycobacteria are slow growers.[10] Other atypical mycobacteria involved in port site infection is *M. abscessus* however it is not much reported.[11]

M. fortuitum has the ability to cause infection of skin and soft tissue infections due to penetrating trauma with the contaminated medical instrument.[12] The atypical mycobacteria have the ability to form biofilm in the reusable laparoscopic instrument.[13] The intricate parts of the laparoscopic instrument make it difficult to be sterilised properly. One of the advised methods of sterilisation of laparoscopic instrument is steam sterilisation, which has showed good efficacy.[14] In recent days, laparoscopic instrument is subjected to ethylene oxide treatment for its sterilisation.[15]

No doubt the laparoscopic hysterectomy has its advantages over the invasive hysterectomy.[16] However, the proper sterilisation before the reuse of laparoscopic instrument is imperative.[17] The present case indicates the importance of proper sterilisation of laparoscopic instruments, before performing laparoscopic hysterectomy.

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