



## Multiple Sinuses around Umbilical Port Site due to Atypical Mycobacterium after Laparoscopic Cholecystectomy- A Rare Case Report

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### Abstract

*Uncommon surgical site infection following laparoscopic cholecystectomy characterized by port site tuberculosis caused by atypical mycobacterium or non tubercular mycobacterium. This infection exhibited an atypical pattern spread of infection occurs within subcutaneous plane and leading to the formation of multiple abscesses and sinuses. Comprehensive management approach by surgical intervention by drainage and debridement of the affected area and long- term multidrug anti-tubercular therapy, resulting in complete healing of the sinuses. This case report highlights the importance of considering atypical pathogens in the differential diagnosis of surgical site infection and comprehensive management strategy.*

**Keywords:** *Atypical Mycobacterium, Tuberculosis, Multiple sinuses, Anterior abdominal wall, Laparoscopic cholecystectomy.*

### Introduction

Port-site tuberculosis is an uncommon complication following laparoscopic cholecystectomy. The source of infection is possibly a laparoscope and other instruments because of improper sterilization<sup>[1]</sup>. The port site infection occurs mostly because of atypical mycobacterium, however, multiple subcutaneous sinuses and abscesses have been reported as non-tuberculous mycobacterium. This non-tuberculous mycobacterium does not respond to anti-tubercular therapy rather responds to

antibiotic therapy<sup>[2]</sup>. The subcutaneous abscesses require drainage. The multiple sinuses heal with long term anti-tubercular therapy.

### Case Summary

A 50 years old woman presented with multiple sinuses in anterior abdominal wall around umbilical port site with duration of 3 months following laparoscopic cholecystectomy. The laparoscopic cholecystectomy was done in a private hospital, a small set up. The umbilical port site got infected and did not heal. The patient

continued with antibiotics prescribed by operating surgeon. Patient developed multiple abscesses around the umbilicus without having any systemic features. These abscesses ruptured one by one and formed discharging sinus. The sinuses were discharging seropurulent material. These multiple draining sinuses were non-healing despite random intake of antibiotics. General physical examination was normal. Local examination revealed multiple sinuses around umbilicus showing slough and bluish hue at margin and around [Figure 1]. Laboratory investigations, hematological and biochemical were normal. The X-ray chest was normal. Viral markers were normal. Ultrasonography of the abdomen was normal and did not reveal any intra abdominal extension or abscess. The infection was limited to the subcutaneous plane of the anterior abdominal wall. One of the sinuses was excised for histopathology and rest of sinuses curettage as done. The histopathology reported lymphocyte, foreign body giant cells granulomatous disease. However, no acid fast bacilli seen suggestive of tuberculous granulomatous disease due to atypical mycobacterium.



**Figure 1** - Showing Multiple Sinuses around Umbilical Port Site

Antitubercular therapy with four drug regimen was started. The patient responded well and sinuses started healing at three months duration [Figure 2].



**Figure 2** - Healing Sinuses after Anti Tubercular Treatment

### Discussion

Port site tuberculosis after laparoscopic cholecystectomy is a rare infection but has been reported in literature. The infection is said to occur due to atypical mycobacterium. The infection is said to gain entry through laparoscopy and hand instruments, which are sterilized by chemical sterilization. For this reason it is recommended that laparoscopes and hand instruments should be autoclaved<sup>[3]</sup>.

The abdominal wall abscess of tubercular etiology has also been reported occasionally associated with intra-abdominal abscess of dropped gallstones<sup>[2]</sup>.

The anterior abdominal wall abscess may need drainage and necrosectomy resulting in sinus

formation. These abscesses and sinuses involve the subcutaneous plane of anterior abdominal wall; the involvement of the external oblique is rare. Extensive necroscopy needs to be followed by abdominoplasty and meshplasty for repair of extensive defects<sup>[4,5]</sup>.

Multiple recalcitrant sinuses due non tuberculous mycobacterium after laparoscopic cholecystectomy have been reported<sup>[6]</sup> In one case report the non tuberculous mycobacterium has been reported as *Mycobacterium magritense*<sup>[6]</sup>.

The atypical mycobacterium is treated with anti tubercular therapy prescribing four drug regimens while non tuberculous mycobacterium is treated with antibiotics<sup>[6]</sup>.

In this case, debridement of sinuses was done and one sinus was excised for biopsy. The histopathology report revealed lymphocytes, giant cell granulomas suggestive of tuberculous etiology. The anti-tubercular treatment using four drugs was given for 6 months. Patient showed remarkable clinical improvement after three months of treatment. All sinuses healed completely after six months of anti-tubercular treatment<sup>[7]</sup>.

### Conclusion

Port site infection following laparoscopic cholecystectomy are relatively common surgical site infection, but those attributable to tubercular bacteria specifically atypical mycobacterium or non tuberculous mycobacterium are unusual. This infection can spread in the subcutaneous plane resulting in the formation of abscesses and sinuses. Effective management of these sinuses requires comprehensive approach including surgical intervention for the metidebridement and long term anti tubercular treatment. The successful management of these cases highlights the importance of tailored therapeutic strategies that incorporate both medical and surgical management to achieve complete healing and better outcomes of patient.

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