PORT-SITE TUBERCULOSIS AFTER LAPAROSCOPY

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Abstract
In light of the explosive increase in laparoscopic surgery there is concern about the effectiveness of sterilizing laparoscopic instruments by immersion in 2% gluteraldehyde. This article describes 02 (two) cases who presented with biopsy proven granulomatous lesion of tuberculosis at the port site which were of primary origin.

Introduction
Laparoscopic cholecystectomy is the gold standard today for the treatment of cholelithiasis and some other intra-abdominal surgical conditions. Laparoscopy has its own set of complications in addition to those operation proper1. A rare complication of two primary tuberculous infection at the port site following laparoscopic cholecystectomy is reported.

Case- 1
A 65-year-old female, known case of cholelithiasis with non insulin dependent diabetes mellitus (NIDDM) and hypertension (HTN) was admitted in a military hospital for laparoscopic (LC) cholecystectomy. DM and HTN were under well control with medications. All pre-operative and pre-anesthetic investigations were performed and all were found within normal limits. LC was performed on 1st August 2007. Per-operatively the gall bladder (GB) was found normal shape, size with mildly thickened wall but all other intra-abdominal organs were normal. The excised GB was taken out of the abdominal cavity through the epigastric port. Post operative recovery was uneventful and the patient was discharged after 07 (seven) days of operation. The excised gall bladder on histopathology revealed chronic cholecystitis. On 12th September 2007 the patient was re-admitted for an infected wound in the epigastric port with parietal abscess. The wound was explored and the abscess was drained. Pus for culture from the wound revealed no growth. Frequent dressing of the wound used to be done but there was no significant improvement of the wound. The wound was 08cmX03cmX03cm with unhealthy granulation tissue and scanty serosanguinous discharge and the margins were undermined (Photo-01). Incision biopsy from the margin and unhealthy granulation tissue from the wound revealed granulamatous lesion simulating tuberculosis. The patient was evaluated with tuberculin test, blood for acid-fast bacilli (AFB) and all were negative for tuberculosis. Anti TB chemotherapy with standard drug regime was provided to the patient. The local wound was managed with frequent dressing and the wound was completely healed up and the patient was asymptomatic. The patient was discharged in appropriate time (Photo-2).

Photo-1 : Unhealthy granulation tissue and undermined margins

Photo-2: Patient at the time of discharge (Case-1)

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Case-2
A 40-year-old, retired army individual with symptomatic cholelithiasis was admitted in a military hospital on 03 October 2007 for LC cholecystectomy. After all pre-operative and pre-anesthetic evaluation LC was performed on 19 November 2007. Per-operatively gall bladder was found with thickened wall and fibrosed. All intra-abdominal organs and abdominal wall was found normal. The GB was taken out through the epigastric port. Post operative recovery was uneventful and the patient was discharged after 07 days of operation. The excised GB on histopathology revealed chronic cholecystitis. The patient was again admitted on 30 December 2007 for non healing wound in the epigastric port. All relevant investigations including culture from the lesion were performed but no definitive cause could be detected. The wound was 06cmx04cmx03cm and the margins were undermined with scanty serosanguinous discharge and unhealthy granulation tissue (Photo-3). The granulation tissue was sent for histopathological exam which revealed granulomatous lesion consistent with tuberculosis (Photo-4). The patient was thoroughly investigated to find out any TB focus. No focus was found. Montoux test was 10 mm indurations, blood for anti TB antibody (Ig Ab) was positive. The patient was provided with standard anti TB chemotherapy and the local wound was managed with frequent dressing. The patient was completely cured off and was discharged in appropriate time (Photo-5).

Discussion
Laparoscopic cholecystectomy (LC) has inherent risks related to laparoscopy in addition to those related with cholecystectomy. It includes complications related to the creation of pneumoperitoneum, bowel injury, cardiac arrhythmias and others. Cutaneous tuberculosis makes up only a small proportion of all cases of extrapulmonary tuberculosis. There are three ways in which cutaneous tuberculosis generally occurs:

- from an exogenous source (inoculation tuberculosis)
● from an endogenous source (secondary tuberculosis) and
● from a haematogenous source.

Both of the patients of this study had no foci of tuberculosis and laparoscopy ruled out any evidence of abdominal tuberculosis. Thus in both these cases the most likely of transmission would be via the laparoscope probably the instrument was improperly sterilized or the organisms were resistant to the mode of sterilization leading to implantation of tubercle bacilli in the subcutaneous plane and development of granuloma.

Sterilization is defined as the complete elimination of all forms of microbial life. However it is widely agreed that 2% gluteraldehyde achieves high level disinfection and not sterilization and it is a standard agent for reprocessing of laparoscopic instruments in many centers. Several publications however have highlighted failure of a 20 min instrument soak in 2% alkaline gluteraldehyde to sterilize instruments. When 2% alkaline gluteraldehyde is used, the following principles are recommended. Careful pre-cleaning of instruments before their immersion in the disinfectant, use of the agent at the room temperature (25°C) which may require heating it in cool operation theatre environment and frequent checks of the gluteraldehyde concentration because repeated use results in dilution. Guidelines for reprocessing laparoscopic instruments have not been standardized. The Minimal Access Therapy Decontamination Working Group has recommended only 10 min soak for laparoscopic instruments with longer time if tuberculosis is suspected.

**Conclusion**

Currently prevalent practices of immersing laparoscopic instruments for 20 min in 2% gluteraldehyde should be re-examined. The laparoscopic instruments should ideally be sterilized by autoclaving, although it runs small risk of damage to the delicate instruments as this may be the only method of preventing such cases.

**References**