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Pathological Perspective of Mesh Infections.

Aim:

Mesh infections are one of the most dreaded complications of hernia surgery. The common causes of mesh rejection in a developing country like India will be tuberculosis and uncontrolled diabetes. The aim of the study is to establish the various pathological changes in the infected mesh or tissue and to rule out granulomatous changes seen in association with tuberculosis.

Materials and Methodology:

This is a ten-year study done in the department of Pathology of South India between Jan 2004 to Dec 2024. The infected mesh material or tissue following a hernia surgery, presented for histological evaluation will be studied. The clinicopathological details of the patients including age, sex, hernia procedure, diabetes status, histological findings were recorded and results will be interpreted.

Discussion:

Mesh infections lead to clinically significant complications of often requiring mesh removal. Histologically, they exhibit chronic inflammation, foreign body giant cell reaction, fibrosis. Common causative organisms include *Staphylococcus aureus* and coagulase-negative staphylococci. Rare infectious etiologies such as *M.tuberculosis* should be considered, particularly in endemic regions or immunocompromised patients. Advances in antimicrobial-coated and biosynthetic meshes offer potential to reduce infection rates. A thorough pathological evaluation is essential for accurate diagnosis and guiding effective management, especially in atypical presentations.

Conclusions:

Hernia repair is one of the surgical procedures where histopathology does not have an active role, but in cases of infected mesh, to establish the diagnosis and the aetiology, histopathological evaluation becomes crucial. In a country like India where diabetes and Tuberculosis is common and a causative factor for delayed wound healing, to rule out any possibility of tuberculosis and other infections histopathology plays a major role.

Results:

A total of 10 cases were evaluated, and among them, the most common age group was between 40-50 years (70%). The most common were female patients (70%). Sixty percent of cases are known case of diabetes on treatment. The most common pathological diagnoses was acute/chronic inflammatory process, with one patient having a granulomatous inflammation suggestive of tuberculosis. The consistent pathological changes were foreign body type giant cell reaction, fat necrosis, acute on chronic inflammatory infiltrate, and granulation tissue formation



Fig.1:Gross appearance of excised mesh material with purulent exudate and fibrotic tissue indicating chronic infection,

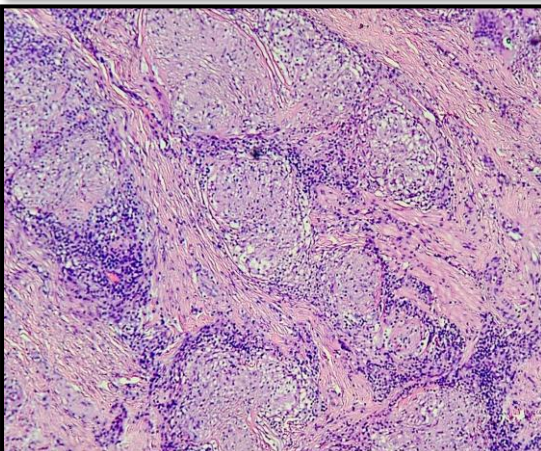


Fig.2: H&E revealing granulomatous inflammation with epithelioid histiocytes and Langhans-type giant cells, suggestive of a tubercular etiology.