Titanised Light Weight Hernia Mesh (TiLENE®) for Inguinal Hernia Repairs – Outcomes, feasibility and Cost saving!

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Background: Tension free mesh repair is gold standard technique for inguinal hernia currently and type of mesh utilized can be heterogeneous. Nearly 20 million inguinal hernia repairs are performed each year worldwide. A surgeon friendly and a safe mesh for both laparoscopic and open approaches will improve patients' outcomes. Titanium is a biocompatible material & has been used in surgical procedures such as dental and orthopaedic implants for many decades with good outcomes.

Aim: The aim of our study was to assess the outcome of a newly introduced Titanised, macroporous mesh (TiLENE®) for both open and laparoscopic inguinal hernia repairs in a specialist hernia centre in terms of cost, intra-operative, post-operative, short- and medium-term outcomes.

Method: A retrospective analysis of prospectively maintained data was performed. Electronic health records and theatre notes were analysed between April 2021 to April 2023. Data collected; patients' demography, type of hernia, surgical approach (either laparoscopic or open), intra-operative and post operative complications such as - wound infection, chronic groin pain, and cumulative 18 months recurrence. The cost analysis was done based on like-to-like replacement of the previous mesh with the newly introduced titanised mesh.

Results: A total of 1105 patients underwent inguinal hernia repair as both elective and emergency cases in two years. The mean age was 63.6 yrs, the youngest being 18 and the oldest being 91 years of age. Of these, 92.7% were male.

Elective hernia repair was in 97.2% and 79% of the patients were ASA II and III. 64% of the patients had high BMI and 13% were inguinoscrotal hernias and 9% were recurrent hernias. Laparoscopic approach was performed in 41% of cases. Glue and absorbable tackers was used to fix the mesh laparoscopically in 12.7% and 87.3% respectively.

Intra-operative complications occurred in 1% (11 patients) of the cases, none of these related to the mesh. Post-operative complications occurred in 5.2% (57 patients) with haematoma (1.4% - 16 patients), chronic groin pain (1.5% - 17 patients) and 18-months cumulative hernia recurrence (1.9% - 21 patients). Like-to-like cost comparison with the previous mesh showed a cost saving of £18,785, during the study period.

Discussion: Different types of meshes have been used, since the advent of usage of surgical meshes in hernia repairs. Risks such as infection, fibrosis, mesh related issues and hernia recurrence have been published. Use of titanised mesh is shown to be safe, feasible and the benefits of improved biocompatibility and reduced foreign reactions can be seen.

Conclusion: Titanised mesh (TiLene) for Inguinal hernia can be used safely, in both open laparoscopic open approaches and is compatible with both TEPP and TAPP procedures and with tackers and Glue with comparable results with significant cost savings. With over 120,000 hernia repairs performed in the UK every year, this switch could save millions for a cash strapped NHS.

References:-

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