Economic analysis of cost-optimized TEP vs Lichtenstein surgery for inguinal hernia – results from a RCT

Conclusion:
The costs for TEP and Lichtenstein repair are equivalent if each repair is performed under cost optimized circumstances. Therefore the costs should not be a factor when choosing which operating technique to use.

Aim:
To compare the costs of inguinal hernia surgery with Lichtenstein using local anesthesia (LLA) and total extra-peritoneal repair (TEP) under general anesthesia.

Introduction:
Endoscopic approaches to inguinal hernia repair are often suggested to be more costly. LLA and TEP are the two techniques mostly recommended, yet they have not been compared under cost optimized settings.

Methods:
• A randomized controlled trial formed the basis for the study
• 2 hospitals in 1 county, 4 surgeons participated
• Economic data needed for this study was collected during the trial
• Hospitals economic systems were used
• Information from the national registry for sick leave has been analyzed
• 384 patients included.

Results:
• 374 (97.4%) patients analyzed
• 10 patient excluded due to missing information in hospitals database
• 189 patients in the LLA group
• 185 in the TEP group

• Median total hospital costs including material:
  - LLA=24957 SEK (IQR 21380-28050)
  - TEP=23565 SEK (IQR 20464-27563), (p=0.21)

• Sick leave:
  - LLA=19.5% of patients vs TEP=24.2%
  - mean of 4.2 days for LLA patients and 6.2 days for TEP patients (p=0.83)

• Median operating time:
  - LLA = 70 minutes (IQR 60-80)
  - TEP = 60 minutes (IQR 50-75), (p<0.001)

• Median duration of anesthetic treatment:
  - LLA = 114 minutes (IQR 95-125)
  - TEP = 125 minutes (IQR 110-145), (p<0.001)

• Median combined costs time in the operating theater:
  - LLA = 23892 SEK (IQR 20315-26985)
  - TEP = 22145 SEK (IQR 18810-25775) (p=0.014)