Cost-effectiveness comparison of tension-free mesh repair vs. tension suture repair methods of inguinal hernia in Brazil

BACKGROUND
The purpose of this analysis is to provide health decision-makers, providers, and surgeons with guidance on whether to use laparoscopic or open surgical procedures for the repair of inguinal hernia. This important medical decision is being made in the context of a disease that affects millions of people worldwide. The analysis was designed to consider several perspectives: the patient, society, the health system, and the payer, as well as to compare different treatment options. It is intended to be used during laparoscopic and open procedures, performed more and less frequently. These outcomes are presented in a cost-effectiveness framework that includes both direct and indirect costs. The analysis was performed to identify the most cost-effective option for the patient.

Cost-effectiveness comparison of surgical treatments
Results of cost-effectiveness analysis conducted in Brazil
Markov Model was used to estimate the incremental cost-effectiveness ratio of open procedures compared to laparoscopic procedures. The model was validated in a 5-year period, and results were presented in a cost-effectiveness framework that included both direct and indirect costs. The analysis was performed to identify the most cost-effective option for the patient.

Compared options
- Open hernia repair
- Laparoscopic hernia repair

Cost analysis from the patient and health perspective
Methodology of the cost analysis from the SUS perspective
The model is a decision-analytic model that simulates costs and outcomes for patients undergoing open hernia repair and laparoscopic hernia repair. The model is based on a Markov model, which simulates the disease process and the health outcomes of patients over time. The model includes both direct and indirect costs, and it is assumed that patients have a 50% chance of undergoing open hernia repair and a 50% chance of undergoing laparoscopic hernia repair. The model is validated in a 5-year period, and results are presented in a cost-effectiveness framework that includes both direct and indirect costs.

Results from cost analyses conducted in Brazil
- Over a 5-year period, open hernia repair provided greater benefit in terms of overall QALYs and lower incremental costs per QALY gained compared to laparoscopic hernia repair.
- Over a 15-year period, laparoscopic hernia repair provides greater benefit in terms of overall QALYs and lower incremental costs per QALY gained compared to open hernia repair.

BIBLIOGRAPHY

RESULTS - BRAZIL

SUMMARY

Objective
The objective of this study was to compare the cost-effectiveness of open hernia repair and laparoscopic hernia repair. A Markov model was used to estimate the incremental cost-effectiveness. The model was validated in a 5-year period, and results were presented in a cost-effectiveness framework that included both direct and indirect costs. The analysis was performed to identify the most cost-effective option for the patient.

Conclusions
- Over a 5-year period, open hernia repair provides greater benefit in terms of overall QALYs and lower incremental costs per QALY gained compared to laparoscopic hernia repair.
- Over a 15-year period, laparoscopic hernia repair provides greater benefit in terms of overall QALYs and lower incremental costs per QALY gained compared to open hernia repair.