HTA In

Policy Brief

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Cost Effectiveness Analysis of IPOM (Intraperitoneal Onlay Mesh) technique for Laparoscopic Ventral Hernia Repair

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Recommendations

- Laparoscopic ventral hernia repair is not cost-effective when compared to open hernioplasty in preventing recurrence for inclusion in the NHA packages.
- Government can emphasize conducting an estimate on the available mesh in the market which eventually will lead to employing good quality composite mesh at subsidized rates in the future. It might affect the overall cost of the procedure.

Key Findings

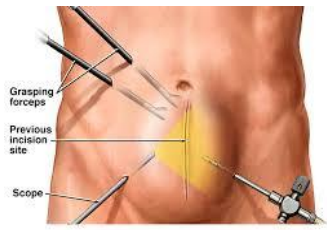
- Clinically, neither the intervention nor the comparator proves to be effective in reducing the risk of hernia recurrence in patients undergoing ventral hernia treatment.
- Intervention could significantly only reduce the risk of having wound infections in patients undergoing laparoscopic IPOM treatment.
- Further, cost of treating a ventral hernia patient laparoscopically was higher as compared to treating with open surgery.
- The cost estimated per patient (from NHSCD) for repair of ventral hernia by laparoscopic IPOM at current capacity utilization of the hospitals was INR 58,872 as compared to comparator, open hernioplasty which was INR 36,166.

Background

- Ventral hernia is a common patient presentation faced by surgeons with an overall incidence between 6-22%.
- National Health Authority was interested to know whether Laparoscopic Intra Peritoneal Onlay Mesh (IPOM) procedure for treating ventral hernia is cost effective over conventional open hernioplasty.
- Laparoscopic repair seems an effective treatment option, is less invasive, results in fewer wound complications and post operative pain and gives faster recovery, along with improved cosmesis.
- Clinical findings for the current study were established after conducting a systematic review and meta-analysis.
- Costs were considered from CHSI database (PGIMER) and cost effectiveness evaluation was thus performed.

Pictorial depiction of the Intervention and comparator

Open Hernioplasty



Laparoscopic Procedure

Option 1 (Comparator)
Open hernioplasty
No use of Laparoscope,
Tackers
Mesh is used

Option 2 (Intervention)
Laparoscopic IPOM
Use of Laparoscope and
Tackers
Mesh is used

PICO	Description of the components of PICO
Population	Adult patients with diagnosis of small Ventral Hernia defect inclusive of incisional hernia, irrespective of size of defect
Intervention	Laparoscopic IPOM
Comparator	Open Hernioplasty
Outcome	Hernia recurrence, wound Infection, seroma, duration of surgery, length of hospital stay and Unit costs of the intervention and comparator.

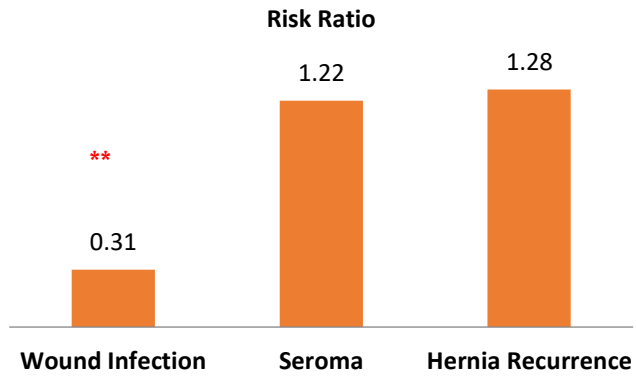
Estimated Cost per patient for both the procedures

Cost of Laparoscopic IPOM Procedure **INR 58,872** per patient

Cost of Open Hernioplasty Procedure **INR 36,166** per patient

Intervention Not cost effective

Cost Outcomes per patient at current hospital capacity in Laparoscopic IPOM and Open hernioplasty



Representative clinical outcomes as per literature review. **No difference in hernia recurrence**. Patients undergoing IPOM procedure are at a **significant lower risk of Wound infection** among other outcomes.

Conclusion

- **Cost per patient:** Estimated cost per patient for VHR by **laparoscopic IPOM** at current capacity of the hospitals was **INR 58,872 and INR 36,166** for **open surgery.**
- **Clinical effectiveness: Clinically,** there was **no significant difference observed** in the primary outcome (**hernia recurrence**) between laparoscopic IPOM and conventional open surgery.
- Clinically, compared to open surgery, laparoscopic IPOM technique **significantly reduces** post-operative **wound infection**.