

Laparoscopic IPOM versus open sublay technique for elective incisional hernia repair: a registry-based, propensity score-matched comparison of 9,907 patients

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Method

This study used prospective data from the Herniated Hernia Registry to compare outcomes for the laparoscopic intraperitoneal onlay mesh (IPOM) and open sublay techniques for incisional hernia repair. The Herniated quality assurance study is a multicenter, internet-based hernia registry with voluntary participating institutions which incorporates prospective data of patients who have undergone routine hernia surgery. These data are obtained from 618 voluntarily participating hospitals and surgeons engaged in private practice mainly in Germany, Austria, and Switzerland. In the current analysis, prospective data of patients who underwent primary elective incisional hernia repair with the laparoscopic IPOM or open sublay approach were evaluated to compare both techniques. Pairwise propensity score matching was performed for 9,907 patients to obtain homogeneous comparison groups. Independent matching groups for laparoscopic IPOM versus open sublay (n=3,965; 96.5%) were thus formed.

Outcome variables (reporting up to 30 days after surgery and at 1-year follow-up):

- ▶ Intraoperative complications
- ▶ Postoperative complications
- ▶ Complication-related reoperations
- ▶ Rates of recurrence
- ▶ Pain (at rest, on exertion, chronic pain requiring treatment)
- ▶ Main hospital stay

Results

In total, 9,907 patients were selected from the Herniated Hernia Registry between September 1, 2009 and June 1, 2016.

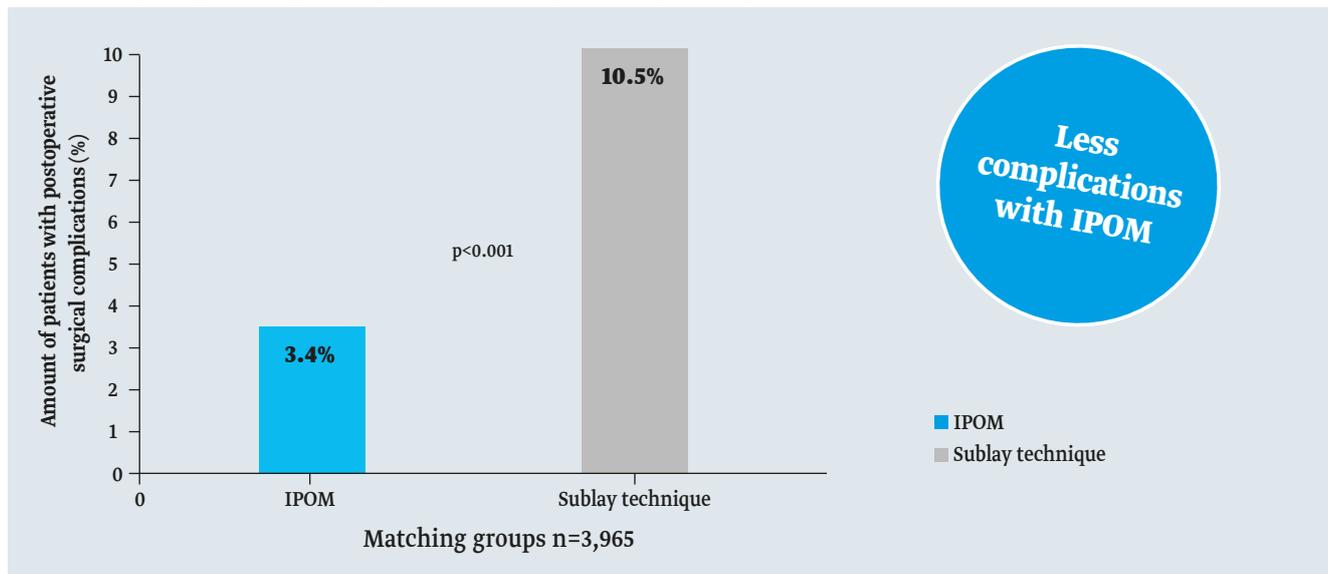
- ▶ Laparoscopic IPOM compared to the open sublay technique lead to more intraoperative complications (2.3% vs. 1.3%; $p < 0.001$), mainly consisting of bleeding, bowel, and other organ injuries.
- ▶ Comparison of laparoscopic IPOM versus open sublay revealed that the sublay technique had disadvantages in terms of:
 - ▶ more postoperative surgical complications (3.4% vs. 10.5%; $p < 0.001$), mainly consisting of surgical site infection, seroma, and bleeding
 - ▶ increased general complications (2.5% vs. 3.7%; $p = 0.004$)
 - ▶ higher number of complication-related reoperations (1.5% vs. 4.7%; $p < 0.001$)
- ▶ No significant differences in the recurrence rates and all pain rates at 1-year follow-up were observed.
- ▶ Main hospital stay showed advantages for IPOM compared to sublay technique with 4.35 ± 3.32 days vs. 6.14 ± 5.29 days ($p < 0.001$).

Conclusion

Laparoscopic IPOM was found to have advantages over the open sublay technique regarding the rates of both surgical and general postoperative complications as well as complication-related reoperations, but disadvantages regarding the rate of intraoperative complications. Additionally, the hospital stay is significantly longer for the open sublay technique.

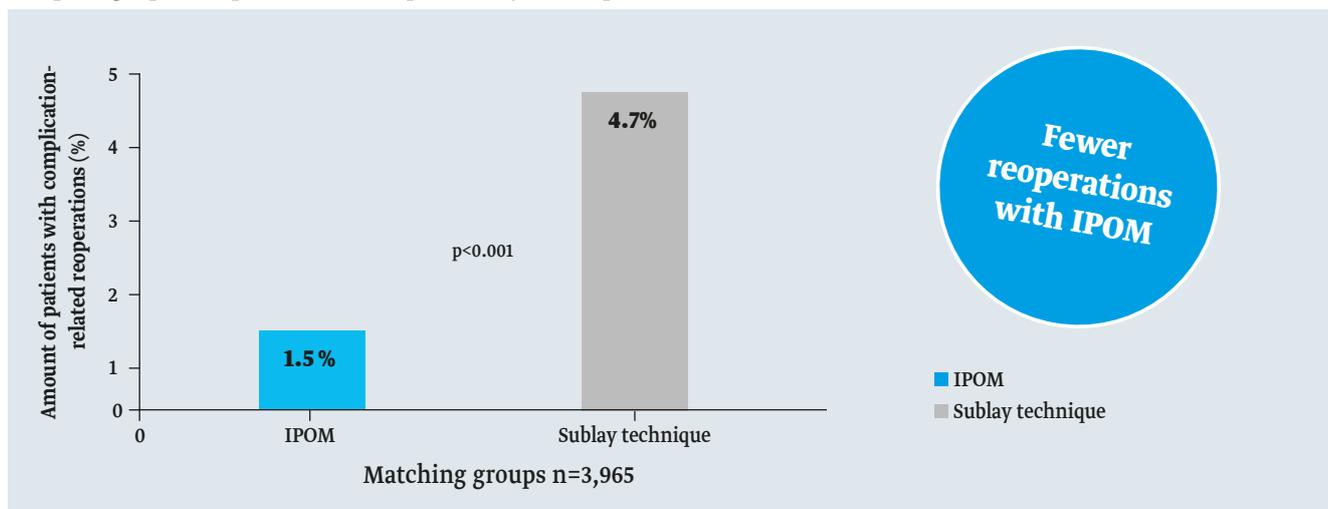
Postoperative surgical complications

Figure showing the probability of postoperative surgical complications after incisional hernia repair occurring up to 30 days after surgery comparing laparoscopic IPOM with open sublay technique.



Complication-related reoperations

Figure showing the probability of complication-related reoperations after incisional hernia repair at 1-year follow-up comparing laparoscopic IPOM with open sublay technique.



References

Further Information:
www.pfmmedical.com/meshimplants-professionals

PubMed:
www.ncbi.nlm.nih.gov/pubmed/30604264

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