



Introduction

- There is little consensus on mesh selection in ventral hernia repair in patients with clean wounds.
- The two major mesh options:
 - Bio-absorbable
 - Permanent
- Bio-absorbable mesh promotes tissue ingrowth, decrease foreign body reaction, and is resistant to infection.
- Permanent mesh provides long-term reinforcement which may be better for a durable repair. (1,2)

Purpose

To correlate mesh selection to and compare:

- Risks of 30-days surgical site infection (SSI) and surgical site occurrence requiring procedural intervention (SSOPI) and readmission
- True 30-days rates of SSI, SSOPI, readmission
- Type of procedure (open vs. laparoscopic)

Methods

- Patients (n=180) who underwent open and laparoscopic ventral hernia repair with bio-absorbable or permanent meshes with clean wounds between April 2014 to March 2019 at Froedtert were retrospectively reviewed.
- Patient demographics, perioperative and postoperative data from the Americas Hernia Society Quality Collaborative (AHSQC) database and hospital record were collected.
- Risk of SSI, SSOPI, and recurrence were calculated using the AHSQC Outcome Reporting App for Clinician and Patient Engagement (ORACLE).
- T-test was used to analyze risks of 30-days SSI and SSOPI, and . Chi-squared test was used to analyze true 30-days SSI and SSOPI, 1-year recurrence, and type of procedure.

Surgeons' Preference in Mesh Selection and Outcome in Ventral Hernia Repair

Fig.1 Predicted 30-Days SSI, SSOPI, Readmission Rate

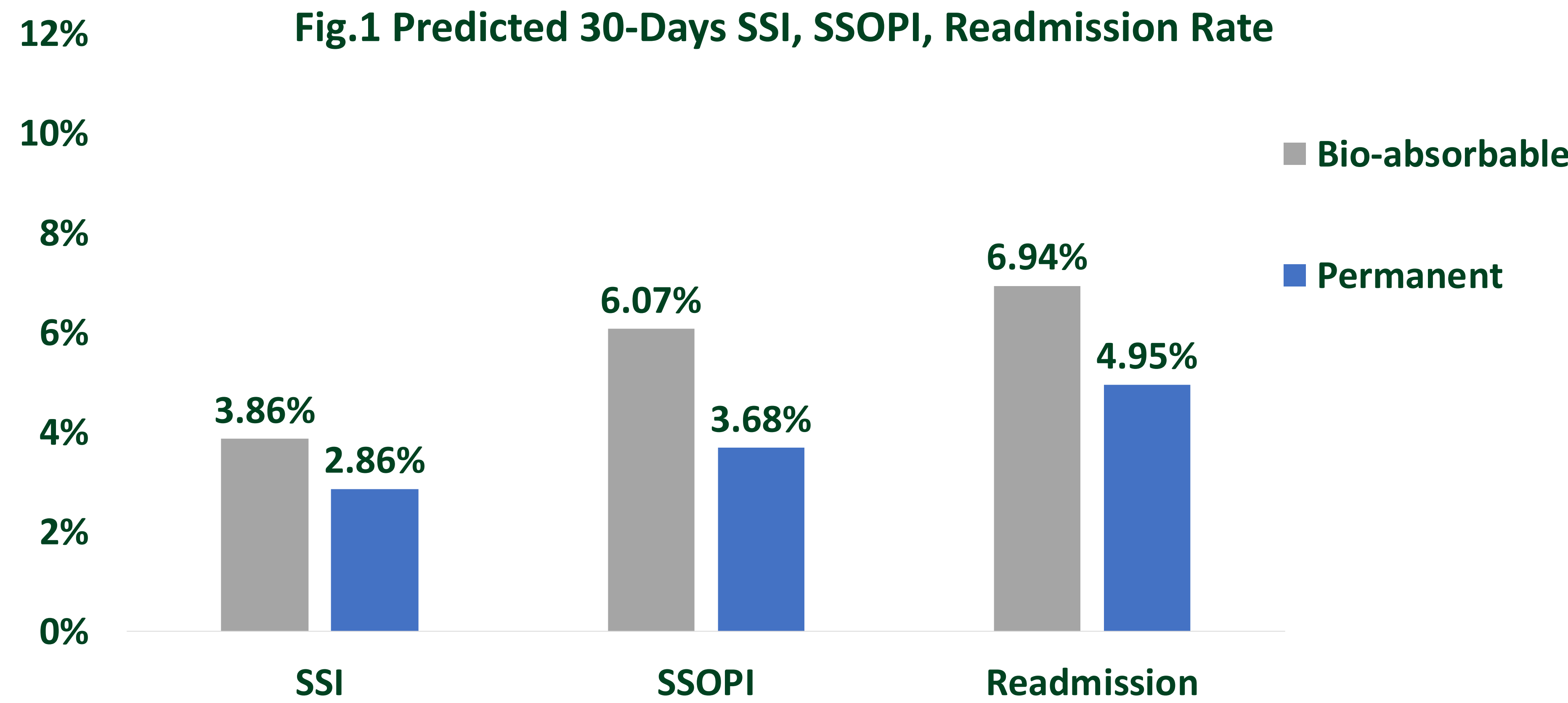


Fig.2 True 30-Days SSI, SSOPI, Readmission Rate

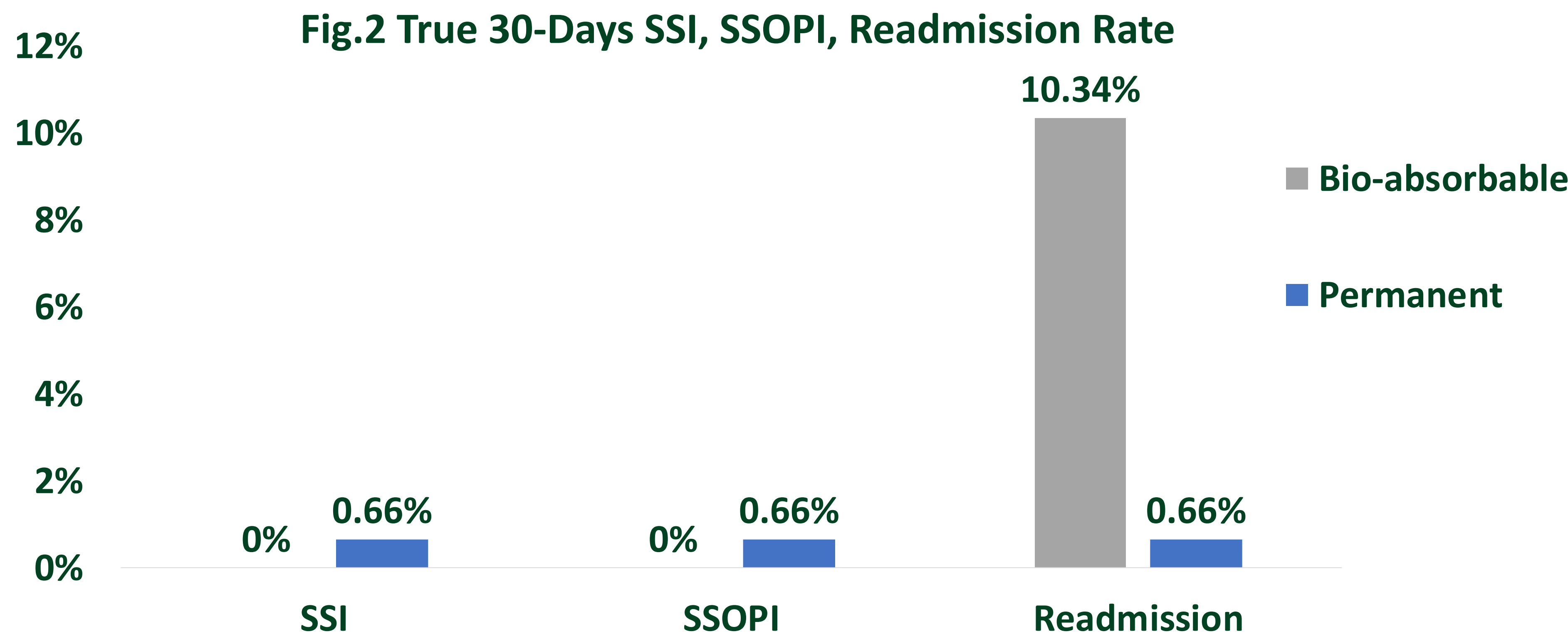


Fig.3 Type of Procedure: Permanent Mesh

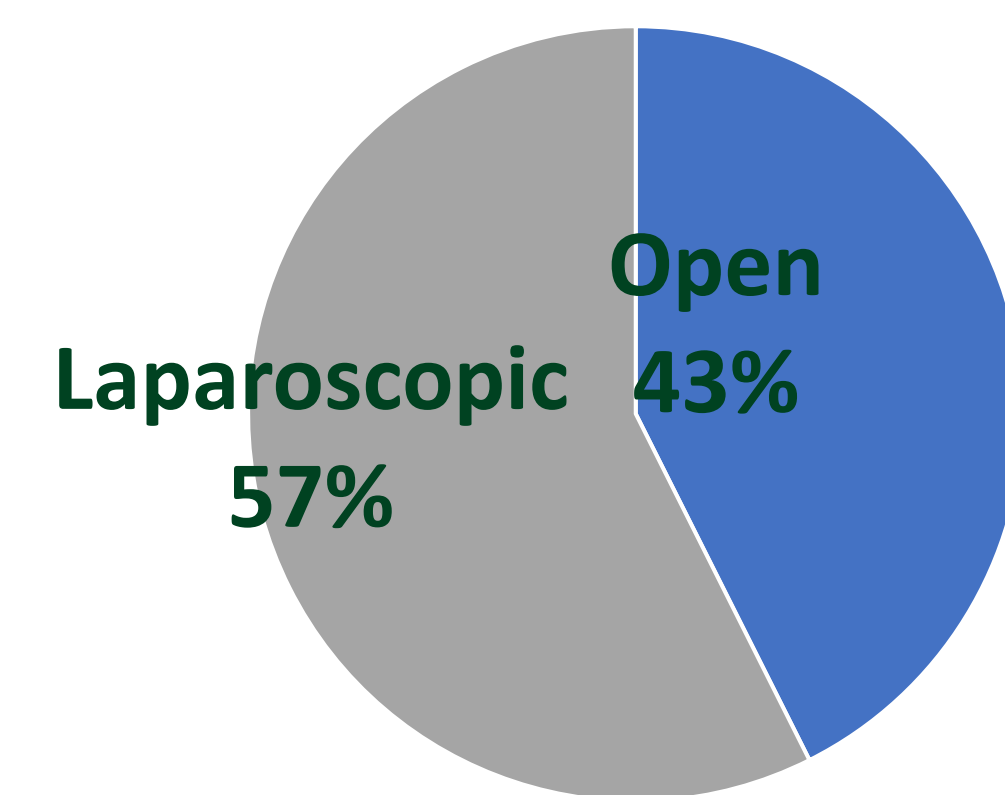
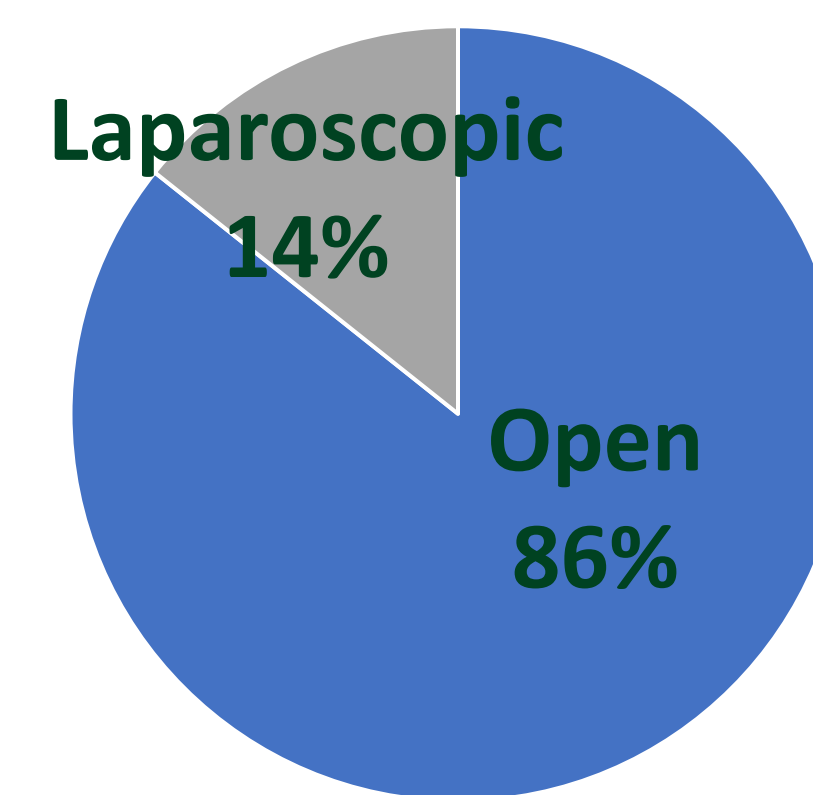


Fig.4 Type of Procedure: Bio-Absorbable Mesh



Results

- Predicted SSI, SSOPI, and readmission rates were higher in patients with bio-absorbable mesh compared to permanent mesh (3.86% vs. 2.86%, p=0.01), (6.07% vs. 3.68%, p=0.001), and (6.94% vs. 4.95%, p=0.01), respectively (Figure 1).
- True SSI and SSOPI for bio-absorbable and permanent mesh were similar (0% vs. 0.66%, p=0.66 and 0% vs. 0.66%, p=0.66). Readmission rate was higher for bio-absorbable mesh (10.34% vs 0.66%, p=0.001) (Figure 2).
- When bio-absorbable mesh was used, 85.7% of cases were open and 14.3% were laparoscopic. Conversely, with permanent mesh, 42.6% of cases were open and 57.4% laparoscopic (p=0.0001) (Figure 3&4).

Conclusions

- In clean-wound ventral hernia repair, bio-absorbable mesh was selected more frequently for patients with a higher risk of SSI, SSOPI, readmission, and open procedures.
- Both meshes had low 30-day rates of SSI and SSOPI, but higher 30-day readmission rates were observed in bio-absorbable mesh.
- Next step: Evaluate the correlation between the type of mesh (bio-absorbable and permanent) and the type of procedure (open and laparoscopic) for the risk of post-operative complications.

Acknowledgements

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References

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- Nahabedian MY, Sosin M, Bhanot P. A Current Review of Biologic Meshes in Abdominal Wall Reconstruction. Plast Reconstr Surg 2018;142(3S Current Concepts in Abdominal Wall Reconstruction):74S-81S.