

## **Adhesiolysis-Related Challenges for Laparoscopic Procedures after Ventral Hernia Repair with Intraperitoneal Mesh**

Florin Turcu, Octavian Arnautu, Catalin Copaescu  
Ponderas AH Hospital, Bucharest, Romania

### **Abstract**

*Background:* Laparoscopic procedures in patients with history of abdominal surgery can be challenging due to the unknown risk of postoperative adhesions (POA). The intraperitoneal onlay mesh procedures (IPOM) are frequently used for open or laparoscopic repair for incisional and ventral hernia. The risk of PoA can be increased in these patients, thus, any further laparoscopic exploration might be considered difficult.

*The aim* of our study is to analyze the adhesiolysis-related challenges and complications in patients requiring laparoscopic surgery after IPOM ventral hernia repair.

*Methods:* All the patients who underwent any laparoscopic procedure after open or video-assisted IPOM ventral hernia repair in Ponderas Academic Hospital from May 2011 to December 2018, were retrospectively analyzed. Two trained experts reviewed all video recordings and collected data on surgical history, adhesion location and density, dissection difficulty, interval time to release adhesions from the mesh and complications.

*Results:* Twenty-nine patients were included into the study. There were 17 females, mean age of 58.0 ± 14.5 years, mean BMI of 28.7 ± 7.0 Kg/m<sup>2</sup> and a median number of abdominal surgeries of 3/patient. Risk factors for adhesion formation, other than the mesh itself were found in 16 patients. The median time from the last IPOM procedure to the laparoscopic exploration was 26 months and it was related to the hernia repair technique in 21 patients and indicated for other pathologies in 8 patients. Adherences to the mesh were found in the majority of the cases (96%). The mean score of surface adhesion and adhesion tenacity was 4.0 ± 1.7 and 3.0 ± 0.8, respectively. The median time to complete the adhesiolysis to the mesh was 22 minutes. Small bowel was open during the dissection in six patients. Mesh migration was encountered in two. There were three conversions to open surgery and one to robotic surgery. History of peritonitis and septic complications at the last surgery were significantly associated with a higher rate of conversion. One surgical site infection and no mesh infection were encountered. The median postoperative hospital stay was 4 days. The 30-day postoperative mortality was nil. The median postoperative follow-up was 13 months. There are 3 recurrent incisional hernias.

*Conclusions:* The study demonstrates that laparoscopic approach after previous IPOM is feasible but challenging. Adherences to the mesh are expected in the majority of the cases. History of peritonitis, a large number of open abdominal procedures, and septic complication at last surgery correlate with a high difficulty of adhesiolysis.

**Key words:** IPOM ventral hernia repair, adhesions, mesh, laparoscopy