

Preoperative Progressive Pneumoperitoneum: Better in an Ambulatory Care Setting? How I do it?

Fahad H.^{1,3}, Nikolaos K.^{*2,3}, Yohann R.³, Alix D.^{3**}

¹Al-Adan Hospital, General Surgery Department, Kuwait. ²Evangelismos General Hospital, Athens, Greece. ³University of Reims Champagne-Ardenne, Department of General, Digestive and Endocrine Surgery, Robert-Debré University Hospital, Reims, France.

Introduction

- Incisional hernias with loss of domain (IHLD) are challenging to treat.
- Preoperative techniques like botulinum toxin injection (BTA) and preoperative progressive pneumoperitoneum (PPP) are highly effective, potentially preventing the need for perioperative component separation in almost 90% of cases.
- PPP involves preoperative introduction of air into the abdominal cavity to increase the abdominal wall volume, aiding in diaphragmatic rehabilitation and hernia reintegration.
- This report aims to show our way of doing this procedure in an ambulatory setting



Methods

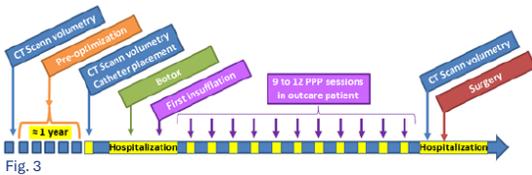


Fig. 3

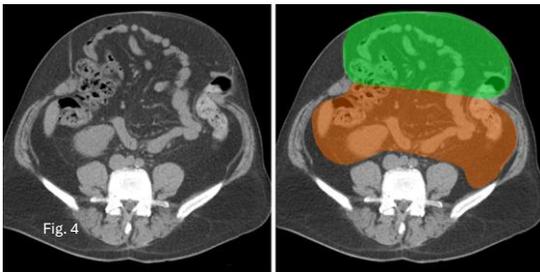


Fig. 4

Conclusion

- ❖ Performing PPP in outpatient care does not compromise its efficacy. Instead, it allows for longer preparation, potentially improving efficacy.
- ❖ PPP is an optimal preoperative option for IHLD, alone or with botulinum toxin injection.
- ❖ Its outpatient realization is safe, satisfactory for patients, cost-effective, and offers several advantages with minimal disadvantages.
- ❖ It has been our standard care since 2010.

Discussion

PPP is likely the procedure of choice for pre-operative IHLD management. Although time-consuming and involving rare complications, PPP offers many advantages: it serves as preoperative diaphragmatic rehabilitation, tests patient tolerance against abdominal hyper pressure, increases abdominal cavity volume [3], and extends lateral muscle length [39]. It likely facilitates adhesiolysis and is effective for all IHLD types, not just median ones.

90% of our IHLD patients,

Didn't require CST as the PPP allowed viscera restoration into the abdominal cavity and complete fascia closure with a mean volume ratio of **34%**

These results are consistent with two systematic reviews reporting

86% to 93% complete fascia closure after PPP for IHLD

Many surgeons avoid PPP due to the long hospital stay it traditionally requires, with only 15% of studies in 2021 reporting outpatient preparation. However, outpatient PPP offers key advantages: it supports physical and respiratory rehabilitation, allows patients to continue daily activities, reduces the need for anticoagulants, shortens hospitalization, and lowers healthcare costs. It may also reduce infection risks linked to prolonged hospital stays, as no prophylactic antibiotics are used. The procedure remains safe and effective, with rare complications typically occurring early during in-hospital steps. A noted drawback is that patients must return to the hospital if complications arise at home.