

Minimally invasive ventral hernia repair using the 'Venetian blinds' technique

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Background

- ❑ Laparoscopic ventral repair is safe, with lower wound infection rates compared with open repair.
- ❑ Repair utilizing a 'Venetian blinds' technique of plication in combination with mesh reinforcement, is a totally intra-corporeal technique that closes the hernia defect and reduces the chance of seroma formation.
- ❑ While laparoscopic suturing of the abdominal wall can represent a technical challenge, pre-operative botulinum toxin injections as an adjunct can assist the process.
- ❑ Aim: To demonstrate that feasibility and efficacy of abdominal wall hernia repair using minimally-invasive 'Venetian blinds' technique, with botulinum toxin adjunct in midline hernias.

Methods

- ❑ Single center prospective case series (2016 - 2017) using minimally invasive 'Venetian blinds' technique
- ❑ Repair of complex ventral abdominal hernias.
- ❑ Twelve patients (7 midline, 5 non-midline) underwent operative repair (11 laparoscopic; 1 robotic).
- ❑ Those with midline hernias received a dose of Botulinum toxin A of 200-300 units of Botox®, 4-6 weeks prior to surgery. Repairs were mesh-reinforced following fascial closure (Figures 1 & 2).

Results

- ❑ Twelve patients (10 female, 2 male), with a median age 72 years (range: 31-83) and body mass index of 27.3 kg/m² (22.8 – 61.7).

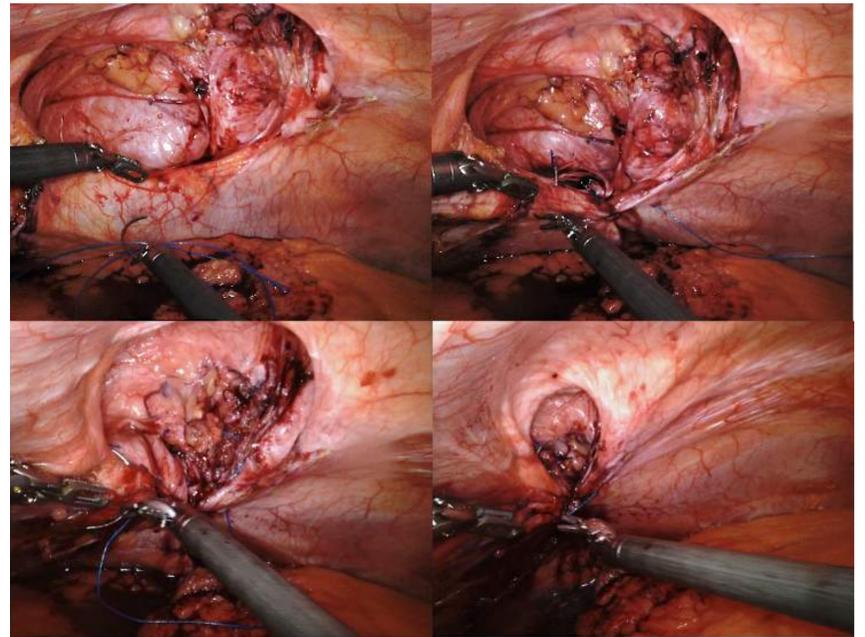
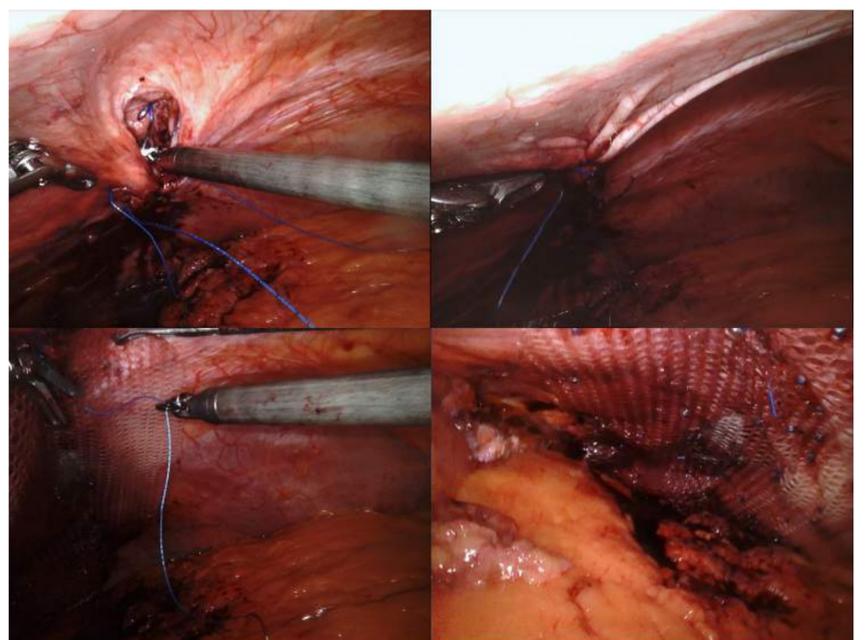


Figure 1 (Above) Closure was achieved with a continuous non-absorbable 1 V-LOC™ PBT (polybutester) suture (Covidien, Inc, Mansfield, Massachusetts), employing the 'Venetian blind' technique with insufflation pressure at 8-mm Hg

Figure 2 (Below) Ventral hernia reinforced with a composite macroporous polyester intraperitoneal onlay mesh (IPOM) and secured with an absorbable fixation device



- ❑ Median length of operation was 133 minutes (45 - 290) and length of hospital stay was 3 days (1 – 28).
- ❑ Median follow up of 18.25 months (4.6 – 28.6). No recurrences to date.
- ❑ One symptomatic seroma that was treated with antibiotics.
- ❑ One patient developed hospital acquired pneumonia and pseudomembranous colitis.

Conclusion

Minimally-invasive 'Venetian blinds' technique has promising early results with both midline and non-midline ventral hernias. The addition of botulinum toxin A is a novel and feasible combination for repair of midline ventral hernias.