

MEETING ABSTRACT

Open Access

Open vs laparoscopic repair of abdominal hernia: a case control study in over 60 years old patients

Massimiliano Fabozzi¹, Rosaldo Allieta¹, Luciano Grimaldi², Stefano Reggio², Bruno Amato², Michele Danzi^{2*}

From 26th National Congress of the Italian Society of Geriatric Surgery
Naples, Italy. 19-22 June 2013

Background

About 15 % of patients who have been undergone to a laparotomy may develop abdominal wall hernia and the risk increases with age. In last years the Laparoscopic treatment of ventral hernia (LVHR) is becoming increasingly widespread in surgical community thanks to the good outcomes of this technique [1,2]. The aim of this study was to describe the experience of our surgical centers in order to establish the safety, efficacy, and feasibility of LVHR using composite mesh and tacks (Figure 1) compared to the open technique (OVHR).

Methods

Between January 2001 and March 2013, 523 patients were admitted to the Specialistic Surgery Centers (Aosta "U. Parini Hospital and Naples "Federico II" Hospital) and treated for abdominal wall hernia. Two groups (Open and Laparoscopic Repair), each one of 100 patients, with similar characteristics have been selected from these (mean age, sex, BMI, ASA risk and for type and size of surgical defects, Table 1): the first group was treated by laparoscopic repair and the second by open hernia repair. Mean age was 66 years old (range: 60-72) in open group and 68 years old (range: 63-73) in Laparoscopic group. Study outcomes were: operative time, complications, postoperative pain, analgesic therapy duration, intestinal function restoration, mean hospital stay, mortality and rate of recurrence at one year follow-up.

Results

Outcomes data are shown in Table 2. In LVHR group the 55% of patients presented incisional hernia and 45% epigastric or umbilical hernias. In OVHR group the 52% of patients presented incisional hernia and 48% epigastric or umbilical hernias. The mean size of surgical defects was 11.4+9.7 cm in Laparoscopic group and 12.6+9.2 cm in Open group. Mean operative time was 61+22 min in Laparoscopic group and 105+27 min. The post-operative complications rate was 14% in Open group and 5% in Laparoscopic group. Patients who underwent LVHR presented a more rapid restoration of intestinal function, less

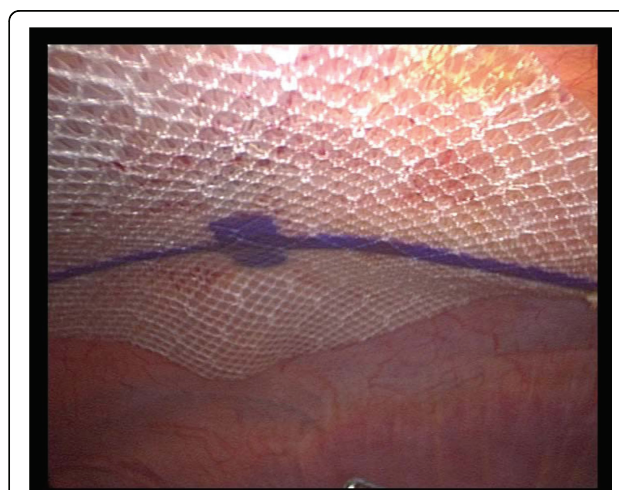


Figure 1 intraoperative image Laparoscopic repair of incisional hernia.

* Correspondence: michele.danzi@unina.it

²Department of Specialized Surgery, Division of Gastrointestinal Surgery Rehabilitation of Election and Emergency. "Federico II" University, Naples, Italy

Full list of author information is available at the end of the article

Table 1 Patients data and operative parameters

	Open abdominal wall hernia repair	Laparoscopic abdominal wall hernia repair
Patients number	100	100
Age (years)	65.4±4.5	67.7±3.1
Sex	56 F / 44 M	49F / 51M
BMI (kg/m ²)	27.1±1.9	29.3±3.6
Asa i	43	32
Asa ii	47	49
Asa iii	10	19
Wall defects size (cm)	12.6±9.2	11.4±9.7
Ng tube removal	after the operation	after the operation
Urinary catheter removal	evening of surgery	after the operation (only in parapubic repair)
Water assumption	evening of surgery	evening of surgery
Time of refeeding	3rd p.o. day	1st p.o. day

Table 2 Outcomes

Outcomes	Open abdominal wall hernia repair	Laparoscopic abdominal wall hernia repair
Operative time (min.)	105±27	61±22
Intra-operative complications	0	0
Laparotomy size (cm)	16±7	No
First peristalsis (days)	2.1±0.9	1.1±0.7
First defecation (days)	3.1±1.6	1.6±1.3
Permanence of drain (days)	2.3±1.6	No
Post-operative pain (VAS pain scale)	6.6	1.7
Anesthetic tap block	No	Yes
Analgesic duration therapy(days)	4. 8±1.5	1.1±1.5
Post-operative complications (number, rate)	14 (14%)	5 (5%)
Hospital stay (days)	5.6±1.2	1.9±1.8
Mortality	0	0

Table 3 Complications

	Open abdominal wall hernia repair	Laparoscopic abdominal wall hernia repair
Hematoma	6 %	1 %
Seroma	4 %	3 %
Visceral lesions	0	0
Sub-occlusion	0	0
Respiratory infections	1 %	0
Infections of prosthesis	0	0
Fascial necrosis	0	0
Postop. Pain (6 mesi)	3 %	1 %
Recurrence	7 %	4 %
Mortality	0	0

postoperative pain and subsequently shorter analgesic therapy compared with the OVHR group. Postoperative complication rate is higher in the OVHR than LVHR group but the mortality rate was 0% for both techniques. Mean hospital stay expressed in days is significantly reduced in LVHR. At one-year follow-up, we observed 7% in OVHR vs 4% in LVHR of hernia recurrence.

Conclusions

LVHR is an effective and safe procedure with very low morbidity and recurrence rates [3,4]. It is associated with less postoperative pain and respiratory complications in over 60 years old patients thanks to less p.o. pain that doesn't compromise the diaphragmatic respiratory movements [5].

By our experience and the datas of Literature we can conclude that the Laparoscopic treatment of abdominal wall hernias (Incisional and not) presents more advantages compared to Open procedures related to reduced global complications and hospital stay with better comfort of patients.

Authors' details

¹Department of General Surgery . "U. Parini" Hospital, Aosta, Italy.

²Department of Specialized Surgery, Division of Gastrointestinal Surgery Rehabilitation of Election and Emergency. "Federico II" University, Naples, Italy.

Published: 16 September 2013

References

1. Itani KMF, Hur K, Kim L, Anthony T, Neumayer L: **Comparison of laparoscopic and open repair with mesh for the treatment of ventral incisional hernia.** *Arch Surg* 2010, **145**(4):322-8.
2. Eker HH, Hansson BM, Buunen M, Janssen IM, Pierik RE, Hop WC, Bonjer HJ, Jeekel J, Lange JF: **Laparoscopic vs. open incisional hernia repair: a randomized clinical trial.** *JAMA Surg* 2013, **148**(3):259-63.
3. Amato B, Moja L, Panico S: **Shouldice technique versus other open techniques for inguinal hernia repair (Review).** *Cochrane database of systematic reviews (online)* 2012, **4**:CD001543.
4. Cuccurullo D, Piccoli M, Agresta F, Magnone S, Corcione F, Stancanelli V, Melotti G: **Laparoscopic ventral incisional hernia repair: evidence-based guidelines of the first Italian Consensus Conference.** *Hernia* 2013.
5. Rea R, Falco P, Izzo D, Leongito M, Amato B: **Laparoscopic ventral hernia repair with primary transparietal closure of the hernia defect.** *BMC Surgery* 2012, **12**(Suppl.1):S5.

doi:10.1186/1471-2482-13-S1-A19

Cite this article as: Fabozzi *et al.*: Open vs laparoscopic repair of abdominal hernia: a case control study in over 60 years old patients. *BMC Surgery* 2013 **13**(Suppl 1):A19.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

