Laparoscopic Surgery and Surgical Infection

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Advantages of Laparoscopic Surgery

Laparoscopic Surgery (LS), termed Minimal Invasive Surgery, the approach of modern surgical care:

- Early postoperative recovery
- Less pain
- Improved aesthetics
- Early return to work

have led to its popularity both amongst surgeons and patients.
Advantages of LS and Warnings

- The metabolic response to surgical injury is less after LS than after open surgery.
- Laparoscopic surgery is associated with better preservation of the immune system than open surgery.
  (LS decreased the incidence of infectious complications)

- Furthermore, maintenance of laparoscopic instruments should be governed by the same norms as those used in open surgery (recommendations offered by the manufacturers should be respected)
Surgical Site Infection Prevention

- Use Antibiotics Appropriately
- Maintain Normal Body Temperature
- Maintain Normal Blood Glucose
- Avoid Shaving Site
- Other Basic Prevention

Surgical Site Infection Prevention Strategies

Informed Activated Surgical Team Working in a Safety Culture
Laparoscopic Surgery and Surgical Site Infections
Surgical-site infections (SSIs) are nosocomial infectious complications causing significant morbidity, mortality, and hospital costs.

This study aimed to compare the incidence of SSI after LS and open surgery.

Patients who underwent LS ($n = 94,665$) or open ($n = 36,965$) appendectomy, cholecystectomy, anti reflux surgery, or gastric bypass between 2004 and 2008
SSI after laparoscopic and open surgery.

- The incidence of SSI was significantly lower in laparoscopic (0.5%) than in open (1.8%) surgery ($p < 0.01$).
- Laparoscopic techniques offered a protective effect against SSI (odds ratio [OR], 0.28; 95% confidence interval [CI], 0.25–0.31).
- Patients treated with laparoscopy were 72% less likely to experience an SSI. This protective effect was shown to be sustained after stratification by severity of illness, admission status, and wound classification (dirty wounds).

(Valera Dallas 2010)
SSI after laparoscopic and open surgery.

Conclusions: In US academic medical centers

- Laparoscopy significantly reduces SSI.
- Patients treated with laparoscopic procedures are less likely to experience SSI.
- After stratification by severity of illness, admission status, and wound classification, laparoscopic techniques showed a protective effect against SSI.

(Valera Dallas 2010)
SSI and LS

Laparoscopic Surgery significantly reduces surgical-site infections compared with open surgery.
Laparoscopic Surgery and Port Site Infections
Port site infection (PSI)

- Despite the advances in the field of antimicrobial agents, sterilization techniques, surgical techniques, operating room ventilation, PSIs still prevail.
- The emergence of rapid growing atypical mycobacteria with multidrug resistance, which are the causative organism in most of the cases.
- PSIs are preventable if appropriate measures are taken preoperatively, intraoperatively and postoperatively.
- PSIs can often be treated non-surgically, with early identification and appropriate management.
Prevention of PSIs

In clean and clean contaminated wounds after LS:

- **The endogenous source of infection** cannot be avoided. But the incidence of PSIs after LS due to endogenous cause can be reduced by using sterile endobag for specimen retrieval.

- **The exogenous source of infection**: is avoidable.
  - Non-tuberculous mycobacteria may be present in water from various sources and soil which can contaminate hospital instruments.
  - A breach in sterilization protocol of laparoscopic instruments is the most common cause of PSI with atypical mycobacteria.
SSI RATE FROM 12.1% TO 4.7%
Laparoscopic Surgery and Colo Rectal Cancer
Ruben Veldkamp
Netherland for CRC

- long-term outcomes of the CLASICC and COLOR trials.
- Patients with colon cancer who are operated on laparoscopically have similar long-term survival to open operated patients.
- However, given the advantages of laparoscopic surgery in the immediate postoperative period, with less SSI, laparoscopy should be implemented in the treatment of colon cancer with curative intent.
Et les fleurs: Oui ou Non???
Merci