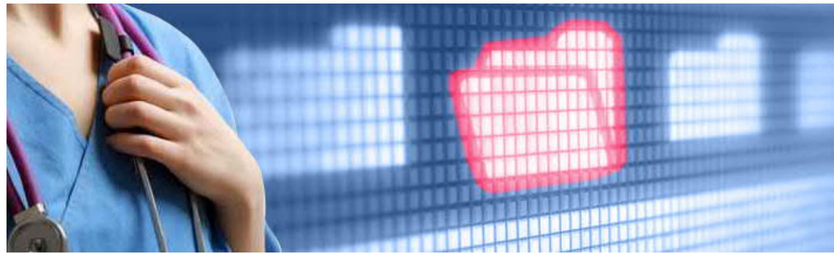
Italian
Perioperative
Program



ERAS Protocol – Hysterectomy

(Laparotomic, laparoscopic and vaginal surgery

All benign and malign gynaecological diseases)

4-2 weeks before surgery

- All patients receive a booklet anticipating events and expectations during the intra- and post- operative period. The booklet is edited by the ERAS team (Surgeon-Anesthesiologist-Nurse).

Verbal information is provided to each patient by the ERAS team together with the booklet delivery during the pre-admission evaluation/counseling.

- Although uncommon in this setting, possible undernourishment is treated with oral supplements (immunonutrition) during the 7 pre-operative days. Nutritional status is assessed with MUST nutritional screening tool during the pre-admission evaluation/counseling

Day before surgery

- No bowel preparation is requested according to ERAS criteria
- No hair removal.
- 800 ml Maltodextrine-rich clear fluid (evening)
- Full dinner

Day of surgery

- Preoperative fasting

  Solid food and non-clear fluids : 6 hrs before surgery

  Clear liquids : 2 hrs before surgery .

400ml Maltodextrine-rich clear fluid administration suggested 2-3 hrs before surgery

- Pharmacological premedication given only in specific cases.
    - elevated anxiety level: short acting drugs (ie: midazolam)
    - allergy (according to hospital protocol)

- Patient positioning on the operating table takes place before induction of anesthesia.
- Elastic stockings in place before admission to the operating room
- Single shot antibiotic prophylaxis provided (according to hospital protocol)
- Regional anesthesia:
  - epidural catheter insertion at T10-11 or T11-12 level for laparotomic procedures
  - Spinal anesthesia with morphine 0.2 mg / 3 ml suggested for laparoscopic procedures (before induction of general anesthesia) to avoid PCA in the post-op period.
  - Spinal anesthesia with bupivacaine 0.5% 10 mg plus morphine 0.1 mg for vaginal hysterectomy
- Induction of general anesthesia (laparotomic and laparoscopic procedures):
- Urinary catheter insertion
- No naso-gastric tube placement (or only limitated to the intraoperative phase)
- Intra-operative anesthetic management:
  - Anesthesia maintained with TIVA (preferred) (propofol 5-8 mg/kg/h + remifentanil 0.1-0.3 mcg/kg/min) or desfluorane + fentanyl (at induction) if indicated.
  - Normothermia maintained with the Bair Hugger air blanket warming system and with intravenous fluids warming systems (pharyngeal temperature continuously monitored).
  - Fluid infusion rate: 2-3 ml/kg/hour (plasma expanders/crystalloids ratio 1:2).
  - Blood products as needed according to published guidelines
- Postoperative prophylaxis:
  - Antithrombotic prophylaxis with LMWH began during the evening after surgery (after at least 6 hs after the end of it) and continued after surgery according to thrombotic risk score.
  - In patients with Apfel score $\geq$ 3 PONV prophylaxis with ondansetron 4 mg iv plus dexamethasone 4 mg iv.. (optional in patients with Apfel score = 2:)
  - Stress ulcer prophylaxis with ranitidine 50 mg iv TID, starting intraoperatively. Proton pump inhibitors are administered instead of ranitidine if previous gastric pathology is known from history

On-ward management

- Balanced electrolyte iv solution 1-2 ml/kg/h not exceeding the first 24 hours after surgery
- Clear fluids beginning 6-8 hs after the end of surgery at will.
- Early mobilization
- Analgesia provided with
  - paracetamol iv 1 g TID (weight <50kg) or QID (weight>50 kg)
  - epidural analgesia: ropivacaine 0.2% 4-6 ml/h + 0.5 mcg sufentanil/ml in laparotomic procedures or PCA if no epidural placement

- morphine PCA (patient controlled analgesia) for 24h in laparoscopic procedures without spinal analgesia
- selective COX-2 inhibitor (if no contraindication) or other NSAID on demand

Postoperative Day 1

- Iv fluid administration withdrawn (if not withdrawn within the 6-8 hs after surgery).
- Pain control provided with oral analgesics
- Free solid food intake beginning with breakfast on the early morning (regardless of the end of surgery)
- Urinary catheter removal
- Early mobilization protocol continued (self-care, walking at least 500m, out of bed at least 8 hrs.)

- Assessment of discharge criteria
  - adequate oral feeding
  - recovery of bowel function
  - adequate pain control with oral analgesics
  - ability to mobilize and self-care
  - no clinical or laboratory evidence of postoperative complications or untreated medical problems
  - patient's compliance
- Consider dischargeability for patient undergone laparotomic procedure
- Dischargeability for patient undergone laparoscopic and vaginal procedure

Postoperative Day 2 or more (laparotomic surgery)

- Epidural suspension test (contemporary administration of NSAIDS strongly suggested): epidural catheter removal only if pain is less than 5 on a VAS scale after 4-6 h without epidural drug administration
- Assessment of discharge criteria
- Dischargeability

Follow-up

- Structured telephone interview 3 days and one month after surgery.