Manual of
Vaginal Hysterectomy

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Chapter 2

Preoperative Preparations, Postoperative Care and Indications

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INTRODUCTION

More than 30 million surgeries are performed every year, world over and out of those one million patients suffer a postoperative complication. A gynecologist assumes responsibility for assessing a patient's clinical status to identify modifiable risk factors and prevent perioperative morbidity. We should also be prepared to diagnose and manage such complications.[1]

Oldest method of access, i.e. vaginal is best method of access to remove uterus whenever possible. The American College of Obstetrics and Gynecology (ACOG) and Cochrane database review suggests that vaginal hysterectomy is safest and preferable route when compared to abdominal and laparoscopic route. It is most cost-effective in terms of operative time, hospital stay and overall postoperative morbidity.[2]

PREOPERATIVE PATIENT EVALUATION

Preoperative preparation is important for two purposes:

1. It detects comorbidities that require further evaluation and optimization to prevent further complications
2. It allows improved use of resources.

Pulmonary System

Risk factors:

- *Procedure related*: Intraoperative stimulation of viscera, muscle disruption and pain may limit respiratory efforts, which leads to atelectasis. General anesthesia longer than 3 hours can increase risk of postoperative pulmonary complications.

- *Patient related*: Age more than 60, smoking more than 20 pack year, chronic obstructive pulmonary disease (COPD), obstructive sleep apnea, obesity [body mass index (BMI) >30], asthma.
- *Postoperative comorbidities*: Atelectasis, pneumonia and exacerbation of chronic lung disease.

Prevention: Pulmonary function test prior to surgery, lung expansion modalities like deep breathing exercises, incentive spirometry and early ambulation.

Cardiac System

Risk factors: Valvular heart disease, heart failure, arrhythmias, and hypertension.

Preventive strategies: Perioperative beta-blockers, coronary revascularization, and anemia correction.

Hepatic System

Liver plays important role in drug metabolism, protein synthesis, coagulation factors and excretion of endogenous compounds.

Risk factors: History of jaundice in recent past, recent travel history, alcohol consumption and exposure to hepatotoxic medications, acute and chronic hepatitis, anemia.

In such patients, in addition to liver function tests, coagulation profiles to be done.

Preventive strategy: Gastroenterological evaluation and specialist opinion prior to surgery should be mandatory.

Renal System

Kidneys are involved in excretion of metabolic waste, hematologic processes and fluid and electrolyte balance.

Risk factors: Chronic kidney disease, anemia due to kidney disorders, electrolyte imbalance.

Preventive strategy: Electrolyte correction, dialysis prior to surgery in required cases, anemia correction, nephrologist involvement.

Hematologic Evaluation

Risk factors: Anemia, coagulopathies and patients on anticoagulants, autologous blood donation: Preoperative autologous donation and salvage autologous transfusions.

Preventive strategy: Anemia correction prior to surgery by iron, multivitamin supplementations, in emergency cases by blood transfusion, correction of coagulopathies.

Patients on anticoagulants, needs to maintain international normalized ration (INR) around 1.5 prior to surgery. Anticoagulant bridging protocols to

be used while shifting patient from oral to intravenous (IV)/subcutaneous (SC) heparin and postsurgery. The INR to be monitored and maintained between two and three postsurgery.[3]

Endocrine Evaluation

Risk factors: Diabetes mellitus, and thyroid disorders.

Increased postoperative morbidity has been associated with poor preoperative glycemic control (blood glucose levels >200 mg/dL and HbA1c >7).[4]

Hyperthyroidism can lead to thyroid storm perioperatively. Patients with goiter can lead to airway compromise.

Preventive strategy: Vigilant preoperative risk assessment for women affected with diabetes mellitus of long-standing is essential, as we are likely to encounter vascular, neurologic, cardiac and renal dysfunction. Preoperatively euglycemic status to be achieved in all such patients.

Management goal for hyperthyroid and hypothyroid patients is to achieve euthyroid status prior to surgery.

SURGICAL CONSIDERATIONS

Infection prophylaxis: As per ACOG 2014a, recommendations, single dose of antibiotic at anesthesia induction to be given. Additional doses should be considered for obese individuals, longer duration of surgery, blood loss more than 1,500 mL. In our setup, we are using cefazolin 1 g single dose prior to surgery and in urogynecological procedures gentamicin or quinolone and metronidazole to be added.

POSTOPERATIVE CARE

Most of the postsurgical problems can be avoided by proper preoperative risk assessment and preventive strategies. However, in spite of due care complications may still develop which need to be treated in time.

Pain Management

Poor postoperative pain control can lead to prolonged hospital stay, patient dissatisfaction and increased cost of procedure.

Major classes of nonopioid analgesics are paracetamol and nonsteroidal anti-inflammatory drugs (NSAIDs). Advantages of giving postoperative analgesics are: reduced opiates requirements, decrease incidence of postoperative nausea and vomiting (PONV), postoperative pain. Nonopioids are generally well tolerated with low risk of serious side effects.

Opiates are primary choice for managing moderate to severe pain, despite of common side effects like respiratory depression, nausea and vomiting.

Fluid and Electrolytes

Daily fluid requirement of average adult is 30 mL/kg/day. Thus, postoperatively crystalloid fluids are used for maintenance, as they increase interstitial volume and do not affect plasma volume. Most commonly used crystalloids are lactated Ringer's solution and isotonic saline. Postoperatively potassium levels should be maintained to avoid paralytic ileus.

Postoperative Nausea and Vomiting

Postoperative nausea and vomiting is most common complain which can be controlled with use of antiemetics like benzamides (metoclopramide), phenothiazines group (prochlorperazine, promethazine) and serotonin antagonists (ondansetron).

Deep Vein Thrombosis Prophylaxis

Deep vein thrombosis (DVT) prophylaxis should be offered to high-risk patients like obese, past history of DVT, on anticoagulants and bedridden patients (delayed ambulation). Different forms of DVT prophylaxis are: use of heparin, intermittent pneumatic compression devices, thromboembolic device (TED) stockings, oral anticoagulants and physiotherapy.

Bowel Function and Diet

Nowadays early resumption of diet has shown to improve gut motility, decrease stasis/ileus, increase splanchnic blood flow, stimulate gastrointestinal (GI) hormone secretions which shortens postoperative ileus.

Bladder Care

Indwelling self-retaining catheter for first 24 hours is important from monitoring of intake and output balance. Patency of catheter should be monitored especially in cases of anterior colporrhaphy.

INDICATIONS AND CONTRAINDICATIONS FOR VAGINAL HYSTERECTOMY

Indications

- Uterovaginal prolapse
- Abnormal uterine bleeding
- Fibroids up to 12 weeks size
- Adenomyosis
- Fibroid polyps
- Premalignant conditions of cervix and endometrium.

Contraindications

Relative Contraindications

- Uterus size greater than 12 weeks
- Benign adnexal pathology
- Broad ligament fibroid.

Absolute Contraindications

- Uterus size greater than 20 weeks
- Inaccessible cervix
- Cervical and endometrial malignancy
- Adnexal malignancy
- Previous successfully repaired vesicovaginal fistula and rectovaginal fistula.

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