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New developments in ambulatory hysteroscopic surgery

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In the last decade, advancements have been made in hysteroscopic techniques, instrumentation and indications. Vaginoscopic hysteroscopy is performed without medication, cervical dilation and use of vaginal speculum or cervical tenaculum. To prevent complications during uterine access, both misoprostol and laminaria are equally effective for cervical priming. The use of normal saline to distend the uterus prevents hyponatraemia, but hypervolaemia may still be a major problem. Irrigant fluid deficit is best monitored by automated devices. Bipolar electrosurgical systems do not require dispersive return electrodes and do not generate stray currents, thus minimizing the risk of electrical burns. Tissue debulking and extraction are facilitated by vaporizing electrodes or morcellators. Hysteroscopic indications have expanded to include diagnosis and treatment of missed abortion, and cervical and interstitial pregnancies. The most important advancement of hysteroscopy has been proximal tubal access for sterilization.

Key words: vaginoscopic hysteroscopy; cervical priming; saline distention; bipolar electrosurgery; fluid monitoring systems; vaporizing electrodes; hysteroscopic morcellator; hysteroscopic fetoscopy; cervical pregnancy; interstitial pregnancy; hysteroscopic sterilization.

The main indications for hysteroscopy include examination of the uterine cavity for menstrual or fertility disorders, direct access for intra-uterine surgery, and proximal tubal access for falloposcopy/tubal cannulation or tubal occlusion for sterilization.

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In order to perform hysteroscopy, the surgeon must have clear indications for the procedure, obtain informed consent, provide adequate analgesia/anaesthesia, access and distend the uterine cavity, and use appropriate instruments to conduct surgery. Adequate training and surgical expertise, including complete knowledge of endoscopic surgical principles and equipment, are of paramount importance. The surgeon must also understand various complications of hysteroscopy to facilitate prevention, recognition and appropriate management when complications occur.

During the last decade, there have been refinements, innovations and advancements in surgical techniques, instrumentation and indications of hysteroscopy. These were designed to minimize patient discomfort and inconvenience, reduce complications, and optimize patient safety and clinical outcomes.

SURGICAL TECHNIQUES

Analgesia/anaesthesia

The use of a rigid hysteroscope for outpatient hysteroscopy has superior optical properties, requires less time for the procedure, and has a higher success rate (100 vs 90%, $P=0.01$) compared with a flexible hysteroscope.[1] However, women experience more discomfort with rigid hysteroscopes.[1] Comparing normal saline with CO_2 as distending media resulted in similar pain during the procedure, less pain immediately after the procedure, greater patient satisfaction and a trend towards lower risk of vasovagal reaction.[2] Diagnostic outpatient hysteroscopy using 4–5-mm diameter hysteroscopes had a 90–95% success rate. The most common complaint responsible for failure was severe pain.[3–5] Several authors reported improved rates of office hysteroscopic feasibility using paracervical block.[3,5]

Pain can be alleviated by a variety of medications and techniques including analgesics, local anaesthetics, conscious sedation and general anaesthesia.

Analgesia

The reduction of pain in the conscious patient can be achieved by a variety of peri-operative medications (Table 1).

Local anaesthesia

The elimination of sensation from the cervix and uterus can be achieved by a variety of gels and sprays. Lignocaine gel applied to the cervix did not reduce pain associated with hysteroscopy[6], while lidocaine aerosol spray in the cervix was effective in reducing pain

Table 1. Suggested peri-operative medications.

- Non-steroidal anti-inflammatory drugs
  - Indomethacin 100 mg rectal suppository 1 hours pre-operatively
  - Ketorolac 10 mg IM or 30 mg IV intra-operatively
- Anxiolytics
  - Lorazepam 0.5–1.0 mg sublingual
- Analgesics
  - Pethidine 50 mg PO or IM