European Journal of Obstetrics & Gynecology and Reproductive Biology 178 (2014) 114–122

Contents lists available at ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: www.elsevier.com/locate/ejogrb

Hysteroscopy: guidelines for clinical practice from the French College of Gynaecologists and Obstetricians

Xavier Deffieux [a,*], Tristan Gauthier [b], Nicolas Menager [c], Guillaume Legendre [d], Aubert Agostini [c], Fabrice Pierre [e]

[a] Service de Gynécologie Obstétrique, Clamart, France
[b] Service de Gynécologie Obstétrique, Limoges, France
[c] Service de Gynécologie Obstétrique, Marseille, France
[d] Service de Gynécologie Obstétrique, Le Kremlin Bicêtre, France
[e] Service de Gynécologie Obstétrique, Poitiers, France

ARTICLE INFO

Article history:
Received 7 February 2014
Received in revised form 18 April 2014
Accepted 22 April 2014

Keywords:
Hysteroscopy
Vaginoscopy
Office hysteroscopy
Outpatient hysteroscopy
Operative hysteroscopy
Distension media

ABSTRACT

The objective of this study was to provide guidelines for clinical practice from the French College of Obstetrics and Gynecology (CNGOF), based on the best evidence available, concerning hysteroscopy. Vaginoscopy should be the standard technique for diagnostic hysteroscopy (Grade A) using a miniature (≤3.5 mm sheath) (Grade A) rigid hysteroscope (Grade C), using normal saline solution distension medium (Grade C), without any anaesthesia (conscious sedation should not be routinely used), without cervical preparation (Grade B), without vaginal disinfection and without antibiotic prophylaxy (Grade B). Misoprostol (Grade A), vaginal oestrogens (Grade C), or GnRH agonist routine administration is not recommended before operative hysteroscopy. Before performing hysteroscopy, it is important to purge the air out of the system (Grade A). The uterine cavity distention pressure should be maintained below the mean arterial pressure and below 120 mm Hg. The maximum fluid deficit of 2000 ml is suggested when using normal saline solution and 1000 ml is suggested when using hypotonic solution. When uterine perforation is recognized during operative hysteroscopy using monopolar or bipolar loop, the procedure should be stopped and a laparoscopy should be performed in order to eliminate a bowel injury. Diagnostic or operative hysteroscopy is allowed when an endometrial cancer is suspected (Grade B). Implementation of this guideline should decrease the prevalence of complications related to hysteroscopy.

Introduction

Main indications of hysteroscopy are abnormal menstrual bleeding, infertility and removal of polyps, myomas, trophoblastic retention, endometrial hyperplasia and intrauterine device. Absolute contraindications are pregnancy and current pelvic infection. The prevalence of complications in diagnostic hysteroscopy is estimated to lie between 1.2% and 3.8% in the case of procedural failures, between 0.19% and 0.97% for vasovagal reactions, 0.13% for perforations, <0.01% for infections, and <0.06% for symptomatic gas embolisms (LE2) [1–7]. The prevalence of complications in operative hysteroscopy is estimated to lie between 0.06% and 0.02% for absorption of an excessive amount of this irrigation fluid (intravascular absorption syndrome = TURP syndrome), between 0.12% and 1.6% for uterine perforations, 0.02% for visceral injuries (urinary or digestive), 0.03% for haemorrhages of >500 ml and/or requiring transfusion, between 0.01% and 1.9% for cases of endometritis, and <0.06% for symptomatic gas embolisms (LE2) [2,8–18]. Whereas various societies have published recommendations concerning diagnostic and/or operative hysteroscopy [19–21], the present paper presents the recommendations drafted by the French College of Gynaecologists and Obstetricians (CNGOF).

Materials and methods

This study is based on an exhaustive review of the literature related to meta-analyses, randomized trials, controlled studies and

* Corresponding author at: Service de Gynécologie Obstétrique et Médecine de la Reproduction Hôpital Antoine Béclère, 157 rue de la Porte de Trivaux, F-92140, Clamart, France. Tel.: +33 145374487/663497513; fax: +33 145374963.
E-mail address: xavier.deffieux@abc.aphp.fr (X. Deffieux).

http://dx.doi.org/10.1016/j.ejogrb.2014.04.026
0301-2115/

large non-controlled studies, published on the subject up until 2013, December.

French and English-language articles from Medline, PubMed, EMBASE and the Cochrane Database were searched, using keywords (MeSH and no MeSH) (hysteroscopy; vaginoscopy; office hysteroscopy; outpatient hysteroscopy; operative hysteroscopy; distension media; haemorrhage; infection; perforation; complication; intrauterine adhesions; synechiae; misoprostol; GnRH agonist; anaesthesia; lidocaine; outpatient hysteroscopy; operative hysteroscopy; polyp; myoma; fibroid; oestrogens; mifepriston; distension media; distension fluid; flexible hysteroscopy; distending media; uterine perforation; mefenamic acid; premedication; gas embolism; leuprolide acetate; hysteroscopic; adverse event; complication; intravasation; turp syndrome; see and treat; oral contraceptive; hyaluronic acid gel; pain; hysteroscope; minihysteroscopy; endometrial cancer; peritoneal dissemination; myomectomy; bipolar; monopolar; haemorrhage; vasovagal syndrome; fluid management.).

The expert editors summarized the literature for each of the questions addressed, and the recommendations were established by a "working group" (5 experts), following which these recommendations were proofread and amended by a group of expert proofreaders. Each recommendation for practice was allocated a grade which not only depends on the level of evidence (LE1: very powerful randomised comparative trials, meta-analysis of randomised comparative trials; LE2: not very powerful randomised trials, well-run non-randomised comparative studies, cohort studies; LE3: case-control studies; LE4: non-randomized comparative studies with large biases, retrospective studies, transversal studies, series of cases), but also on the feasibility and ethical factors [22,23]. Grade A represents the scientifically established evidence; grade B represents a scientific presumption; grade C is based on a low level of evidence, generally founded on LE3 or LE4. In the absence of any conclusive scientific evidence, some practices have nevertheless been recommended on the basis of agreement between all the members of the working group ("expert opinion").

Results

Diagnostic hysteroscopy

Timing within the menstrual cycle

In published series (LE4) [6,24], the beginning of the follicular phase (after menstrual bleeding), or any moment during the cycle which avoids menstrual bleeding [1,25,26], is preferred. However, it is important to rule out pregnancy if you decide to perform hysteroscopy during luteal phase.

Misoprostol

In post-menopausal women, there is no benefit to be found in using misoprostol, in terms of the need for dilation or the prevalence of complications (LE1), and misoprostol is known to be associated with an increased prevalence of side effects (abdominal cramps, diarrhoea, nausea, bleeding and fever) (LE1) [27]. There is no data evaluating the usefulness of misoprostol prior to a vaginoscopy. In non-menopausal women, randomised trials have produced conflicting results in terms of pain (little or no reduction in pain following the administration of misoprostol) and above all a high prevalence of side effects and cancellation as a result of bleeding (RR 3.09; 95% CI 2–5, $p = 0.0006$) following the use of misoprostol (LE2) [29–32].

Oestrogens and misoprostol

In post-menopausal patients previously treated with oestrogens, the (oral) administration of misoprostol is associated with improved, although moderate (1 mm), spontaneous cervical dilation, when compared with a placebo, with no difference in terms of complications (LE2) [33,34].

Mifepristone

A randomised trial has shown that the administration of mifepristone prior to a diagnostic HSC is not associated with improved cervical dilation, when compared with a placebo (LE2) [35].

Temperature of the distension media

A randomised trial (vaginoscopy using saline) did not reveal any difference in terms of pain, satisfaction or length of procedure, for distension media temperatures lying between 28 °C and 37.5 °C (LE4) [36].

Flexible or rigid hysteroscopy

Flexible hysteroscopy appears to provide a moderate clinical benefit in terms of pain (LE2) and the reduction of vasovagal reactions (LE3), at the price of a more lengthy procedure (LE2), poorer visualisation (LE2) and a higher failure rate (LE3) [37–39]. There is no data comparing flexible hysteroscopy and vaginoscopy.

Gas (CO_2) or saline distension

Randomised trials have not shown any difference in terms of visibility and pelvic pain (LE1), although a significant reduction in scapular pain and vasovagal reactions, as well as a slight reduction in length of procedure were observed with saline (LE2) [40–50].

Pressure of the distension media (gas and saline)

No study has compared visualisation, pain, excessive absorption, nor the rate of gas embolism as a function of the pressure of the distension medium. In most published studies, the pressure used with saline is not specified, or it is simply stated that the saline pouch is attached to a stand at a height of 1.2 m (120 cm H_2O = 80 mm Hg); in other series, the pressure lies between 100 and 150 cm H_2O (LE4) [44,50].

In most diagnostic HSC series using gas, the insufflation pressure is monitored and limited to 100 mm Hg (LE4) [40,43,44,50].

It is not recommended to monitor the instillation pressure in the case of a diagnostic hysteroscopy using saline (expert agreement). If a gas is used for distension, it is recommended to monitor the pressure, and the insufflation pressure must remain below 100 mm Hg (Grade C).

Analgesic and anaesthetic technique

Hypnosis. A non-randomised study observed that hypnosis did not appear to be associated with any decrease in pain during hysteroscopic tubal sterilization (LE4) [51].

General anaesthesia. More than 95% of hysteroscopies can be carried out without general anaesthesia, without the use of neuroleptanalgesia or conscious sedation, and without spinal/epidural anaesthesia (LE3) [1,4,28–37].

It is recommended to carry out diagnostic hysteroscopies without general anaesthesia (nor neuroleptanalgesia, nor conscious sedation), nor with regional anaesthesia (expert agreement). In the case of failure or significant pain without anaesthesia, the use of local, regional or general anaesthesia can be discussed (Grade C).

Non-steroidal anti-inflammatory drugs. Randomised trials, dealing mainly with procedures making use of a 5 mm diameter rigid hysteroscope, led to conflicting results concerning pain [53–55].