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Invited Editorial

Hysterectomy for benign disease: clinical practice guidelines from the French College of Obstetrics and Gynecology

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ABSTRACT

Objective: The objective of the study was to draw up French College of Obstetrics and Gynecology (CNGOF) clinical practice guidelines based on the best available evidence concerning hysterectomy for benign disease.
Methods: Each recommendation for practice was allocated a grade, which depends on the level of evidence (clinical practice guidelines).
Results: Hysterectomy should be performed by a high-volume surgeon (>10 hysterectomy procedures per year) (grade C). Stimulant laxatives taken as a rectal enema are not recommended prior to hysterectomy (grade C). It is recommended to carry out vaginal disinfection using povidone-iodine solution prior to hysterectomy (grade B). Antibiotic prophylaxis is recommended during hysterectomy, regardless of the surgical approach (grade B). The vaginal or laparoscopic approach is recommended for hysterectomy for benign disease (grade B), even if the uterus is large and/or the patient is obese (grade C). The choice between these two surgical approaches depends on other parameters, such as the surgeon's experience, the mode of anesthesia, and organizational constraints (duration of surgery and medical economic factors). Vaginal hysterectomy is not contraindicated in nulliparous women (grade C) or in women with previous cesarean section (grade C). No specific hemostatic technique is recommended with a view to avoiding urinary tract injury (grade C). In the absence of ovarian disease and a personal or family history of breast/ovarian carcinoma, the ovaries should be preserved in pre-menopausal women (grade B). Subtotal hysterectomy is not recommended with a view to reducing the risk of peri- or postoperative complications (grade B).
Conclusion: The application of these recommendations should minimize risks associated with hysterectomy.

Introduction

In drawing up these clinical practice recommendations, the French College of Obstetrics and Gynecology (CNGOF) conducted an exhaustive review of the literature concerning complications of hysterectomy for benign disease, with a view to reducing their prevalence.

Methods

This study is based on an exhaustive review of literature meta-analyses, randomized trials, controlled studies, and large uncontrolled studies, published on the subject up until December 2015. French- and English-language articles from Medline, PubMed, EMBASE, and the Cochrane Database were searched, using key words (MeSH and no MeSH) (*hysterectomy; laparoscopy; laparotomy; supracervical; total; subtotal; vaginal; robotic; laparoscopy-assisted; vaginal cuff closure; barbed suture; ligasure; thermofusion; vaginal cuff dehiscence*). 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

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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 randomized comparative trials, meta-analysis of randomized comparative trials; LE2: Not very powerful randomized trials, well-run non-randomized 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 feasibility and ethical factors. 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

Preoperative medication

In one study preoperative anemia was associated with increased prevalence of postoperative morbidity and mortality in major noncardiac surgery, but the study included no finding specific to hysterectomy [1]. There are various ways to correct anemia before hysterectomy or to attempt to reduce uterine volume (to avoid laparotomy or to reduce the risk of complications): iron therapy and/or induction of amenorrhea using progestins, gonadotropin-releasing hormone (GnRH) agonists, selective progesterone receptor modulators (SPRMs), estrogen/progestin combinations, etc. No study has compared these different options.

As the data concerning its use before hysterectomy are discordant, misoprostol is not recommended (expert opinion) [2–4]. The literature data are insufficiently robust to make recommendations concerning other pre- or perioperative medications (tranexamic acid, mefenamic acid, etc.).

There are data showing that SPRMs reduce abnormal preoperative bleeding in the case of fibroma, but there are no robust data on their impact on the choice of surgical approach in hysterectomy [5,6]. One trial indicated that SPRMs reduce uterine volume 50% less than GnRH agonists, but this was only a secondary end point [5].

Preoperative prescription of GnRH agonists for 3 months is associated with a decrease in uterine volume (LE1) and in perioperative blood loss (LE2), but without a decrease in the prevalence of transfusion (LE2) [7–22]. There are no robust data showing whether the prescription of GnRH agonists increases the frequency of vaginal hysterectomy. The potentially beneficial effects of GnRH agonists should be weighed against their side effects and high cost. There are no robust data on the value of associated estrogen therapy (add-back therapy) [23,24] or of the combined prescription of tibolone in hysterectomy [25–28]. Preoperative treatment with GnRH agonists is recommended in the case of hysterectomy for benign disease, for which median laparotomy is considered, bearing in mind the volume of the uterus (grade B). Uterine volume should be reevaluated after this treatment to see whether another surgical approach is possible.

Embolization and occlusion of the uterine arteries were evaluated in isolated treatment or treatment prior to myomectomy, but there is no study on their benefits in hysterectomy [29–32].

No comparative study has evaluated autotransfusion in hysterectomy, and so it is not recommended (expert opinion).

Preoperative urine and vaginal culture

No study has examined the value of urine culture before hysterectomy. As for vaginal bacterial ecology and the risk of infection after hysterectomy, the prevalence of postoperative infection of the vaginal vault is higher when there is bacterial vaginosis before hysterectomy (LE3) [33–35]. Preoperative treatment of bacterial vaginosis reduces the risk of infection of the vaginal vault after total abdominal hysterectomy (LE3) [36]. As there is no study in the general French population of the prevalence of these vaginal infections before hysterectomy, routine vaginal sampling prior to hysterectomy is not recommended (expert opinion). If there are suggestive symptoms and vaginal sampling leads to diagnosis of vaginosis before hysterectomy, preoperative treatment of the vaginosis is recommended (grade B).

Preoperative vaginal disinfection

Preoperative vaginal disinfection with povidone-iodine solution reduces the risk of postoperative pelvic abscess (LE2) [33–36] and is recommended before hysterectomy (grade B).

Antibiotic prophylaxis

The prevalence of infections after hysterectomy is approximately 10% (LE2) [37]. Perioperative antibiotic prophylaxis with cephalosporin is associated with an approximately 50% decrease in the prevalence of infections after hysterectomy (LE3) [37–39] and is therefore recommended for hysterectomy, whatever the surgical approach (grade B).

Risk factors for laparoscopic conversion

A history of pelvic surgery (LE3) and uterine weight (LE3) are risk factors for laparoscopic conversion in the case of laparoscopic or vaginal hysterectomy [40–42].

Bladder and ureteral injury

During hysterectomy for benign disease the prevalence of bladder injury is 0.6% to 1% (LE3) and that of ureteral injury 0.04% to 0.5% (LE3) [43–45]. A history of cesarean section and a large uterus are the two identified risk factors for bladder injury (LE3) [43–45]. Associated endometriosis is an identified risk factor for ureteral injury (LE3) [43–45].

Normal findings on cystoscopy during hysterectomy do not discount the diagnosis of bladder lesion (LE3) [46–48] and therefore cystoscopy cannot be recommended (grade C). There are limited data concerning the intravenous injection of indigo carmine [49], intravesical instillation of methylene blue, and gas insufflation [50], which cannot therefore be recommended.

There is no randomized trial comparing single- and double-layer sutures of bladder injury.

Vesicovaginal fistula

The prevalence of vesicovaginal fistulas after hysterectomy for benign disease is approximately 0.1% (LE3) [38,51,52]. In the event of a perioperative bladder lesion, the risk of vesicovaginal fistulas increases (to 5%), particularly if the injury is close to the trigone (LE3) [53].

Gastrointestinal complications: injury, ileus, occlusion, and constipation

Adhesiolysis is the main risk factor for gastrointestinal complications of laparotomic hysterectomy and laparoscopic hysterectomy (LE3) [38]. Advanced age is not a risk factor for bowel problems after hysterectomy (LE4) [54]. The prevalence of gastrointestinal injury does not seem to correlate with surgical experience (LE3) [55,56].