

Editorial

How to approach patients younger than 35 requesting a hysterectomy for sterilization

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The median age of hysterectomy in many European countries is approximately 50 [1–3]. This is largely attributed to the hormone-dependent nature of conditions such as fibroids and adenomyosis, which reach their peak incidence around this age and represent the primary, benign indications for the procedure [1–3]. Nevertheless, women under 35 years of age may also be affected by these conditions, which explains why approximately 3 % of hysterectomies are performed in this younger age group [4].

In our clinic, we have observed a growing number of nulliparous patients under the age of 35 requesting a hysterectomy for sterilization, as well as for the management of dysmenorrhea, abnormal uterine bleeding (AUB) or a personal preference to permanently eliminate menstruation. This request emerges from a society which values patient autonomy and in which social media plays an increasingly influential role in shaping opinions. A growing shift away from hormonal treatments is observed, as well, with more and more women seeking non-hormonal alternatives – often due to failed hormonal treatments or simply an unwillingness to use them [5,6]. Their requests for a hysterectomy had often been declined by other gynecologists, who refused to perform the procedure due to concerns regarding possible regret in the future, while others simply denied their request without explanation. There is a lack of published data regarding hysterectomies for benign indications in young and/or nulliparous patients and no prospective studies exist on hysterectomies in young women for sterilization purposes. In this editorial we will present our proposed approach when managing these patients.

In Table 1 we have summarized three studies which analyze data on hysterectomies for benign indications in young patients. The studies were all retrospective and the authors defined “young” patients by age, ranging from 30 to 36. Bougie et al. (2020) surveyed 71 patients, out of a series of 189, aged 35 years or less, using the Decision Regret Scale (DRS) to evaluate regret. In this study, 2,8 % of women regretted their decision. The authors found no association between regret and age or parity [7]. The authors attributed the low regret rate to adequate preoperative counselling, a preoperative trial of medical management and respect of the patient’s autonomy. Past permanent sterilization was

reported in 42.4 % of patients, but the authors did not specify whether regret was less frequently expressed by these women [7].

King et al. (2024) surveyed 241 patients out of a total of 287, also using the DRS. They reported that 7.2 years after surgery, on average, patients aged 30 years or less were 4 to 5 times more likely to regret either having undergone surgery or the loss of fertility than were patients over the age of 30 [6]. However, overall, 83.1 % of younger participants were satisfied with their decision, compared with 97 % of older participants [8].

Reddington et al. (2024) used two questionnaires. The first, designed by the authors of the study, gathered information on demographics, quality of life (QoL), medical history, regret and relief. The DASS-21 (Depression Anxiety Stress Scale) questionnaire was used to evaluate depression, anxiety and stress during the previous four weeks. 268 patients (out of 1285) completed the survey. No significant relation was observed between age at hysterectomy and regret or relief [9]. Data about the specific method of sterilization were not provided. Patients experiencing regret or no relief had a higher risk of depression, underlining the importance of preoperative counselling and psychological evaluation, as well as long-term follow-up [9].

We did not survey the gynecologists who declined hysterectomies for young patients, but we hypothesize that concerns about potential regret and the loss of fertility were the primary reasons. The three surveys that we found provide reassuring data, though they draw attention to the increased risk of regret in very young women and the importance of a well-informed preoperative decision, to minimize regret and depression [7–9]. The refusal of a hysterectomy may also stem from concerns of exposing young, healthy patients to potential short- and long-term postoperative complications. The potential complications must be explained to patients before they make a decision. The main short-term complication rates generally range from 1,47 to 12 % [10–12], though the incidence of these complications seems to depend on the patient’s comorbidities, the surgical approach and the surgeon’s experience. Minimally invasive approaches have been associated with lower risks [10–12].

Regarding long-term complications of a hysterectomy with ovarian

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Table 1

Principal characteristics of the three surveys that evaluated regret after hysterectomy in “young women”.

Study	Bougie et al. (2020)	King et al. (2024)	Reddington et al. (2024)
Method			
Design	Retrospective chart review	Matched retrospective cohort study	Retrospective cross-sectional study
Number of surveyed patients	71 /189 (38 %)	241 / 287 (84 %)	268 / 1285 (21 %)
Number of “young patients”	71 (100 %)	77 (32 %)	29 (11 %)
Study period	2008–2015	2009–2016	2008–2015
And country	Two centers Ontario, Canada Ottawa, Canada	Single academic institution Chicago, Illinois United States	Single tertiary centre Melbourne, Australia.
Age threshold	35 years	30 years	36 years
Mean age since surgery	61.5 months	7.2 years	7 years
Indication for hysterectomy	Benign indications (total) Fibroids (22,5 %) Endometriosis (19,7 %) Menorrhagia (35,2 %) Pain (15,5 %) Breast cancer/BRCA (1,4 %) Other (1,4 %)	Benign indications (<30/>30y) Pelvic pain (77,9 / 45,1 %) AUB (31,2 / 35,4 %) Leiomyoma (1,3 / 27,4 %) Endometriosis (13 / 8,5 %) Dysmenorrhea (27,3 / 29,3 %) Cervical dysplasia (0/1,8 %) Other (16,9/28 %)	Benign indications (total) Pain (29 %) Bleeding (43 %) Prolapse (3 %) Family history of malignancy (3 %) Other (21 %)
Evaluation tool	DRS (Decision regret scale)	DRS (Decision Regret Scale)	Questionnaire designed by the study (QoL, regret, relief, demographics and medical history) DASS-21 (Depression anxiety stress scale Short Form)
Results			
Regret	2,8 % Surgical/ loss of fertility regret non-specified.	Surgical regret OR 4.8 (95 % CI 2,3-9,8) 32.5 % (30y or younger) 9.1 % (Older than 30y) Loss of fertility regret OR 4.1 (95 % IC 1,5-7,5) 39 % (30y or younger) 13.4 % (Older than 30y)	11 % (36y or younger) 6 % (older than 36y) OR 0.50 (95 % CI 0.13–1.93) $p = 0.312$
Relief	91,5 %	83.1 % (30y or younger) 97 % (Older than 30y)	86 % (36y or younger) 88 % (older than 36y) OR 1.26; 95 % CI 0.38–4.15; $p = 0.702$
Nulliparous	25,4 % of all patients No influence of parity on regret.	11,7 % (30y or younger) 14 % (Older than 30y) No influence of parity on regret.	29 % of all patients No influence of parity on regret.
Prior sterilization	42.4 % of all patients (female or male). Association with regret not specified.	41,6 % (30y or younger) 36,6 % (Older than 30y) No influence of prior sterilization on regret	Not specified
Major finding	First study on postoperative regret following hysterectomy for benign indications under 35 years.	Agreed that the surgery was the right choice 83.1 % (30y or younger) 97 % (Older than 30y)	Patients reporting regret scored higher on DASS-21 Depression OR 1.16 (1.06–1.27) Anxiety OR 1.17 (1.05–1.31) Stress OR 1.20 (1.09–1.33)

preservation, authors reported higher FSH levels and lower AMH at an earlier age than for control patients of the same age [13–15] (Table 2). On average, women who had had a hysterectomy reached menopause two to four years earlier than control patients [13–15]. However, it remains unclear whether these differences are influenced by the age of the patient at the time of the hysterectomy, and it is unknown whether the earlier onset of ovarian insufficiency is influenced by the underlying pathology. Nevertheless, these findings highlight the importance of providing information about the risk of POI to patients during the decision-making.

Several authors also reported a small but significant increased risk of cardiovascular morbidity after hysterectomy, even without bilateral oophorectomy [16]. Laughlin-Tommaso et al. (2016) studied the cardiovascular risk after hysterectomy, using a retrospective cohort, of 2094 women who had undergone a hysterectomy with ovarian preservation, 529 (25.3 %) of whom were younger than 35. These women were matched to unoperated peers. The authors reported a higher risk of developing cardiac arrhythmia (HR 1.36; 95 % CI 1,00-1,84), coronary artery disease (HR 2,49; 95 % CI 1,39-4,47) and congestive heart failure

(HR 4.59; 95 % CI 1.32-15.94). It should, however, be noted that women undergoing a hysterectomy with ovarian preservation were more likely to be obese (OR 1.58; 95 % CI 1.30-1.93), to have pre-existing hyperlipidemia (OR 1.50; 95 % CI, 1.11-2.02) and to have other chronic conditions (OR 1.90; 95 % CI 1.48-2.44) [16].

Similarly, Ingelsson et al. (2011) studied cardiovascular disease in 184,441 Swedish women who underwent a hysterectomy for benign indications. In this study, women younger than 50, who had had a hysterectomy without oophorectomy, were more likely to develop cardiovascular disease (HR 1,18; 95 % CI 1,14-1,22) but possible risk factors other than age and socio-economic factors were not evaluated [17].

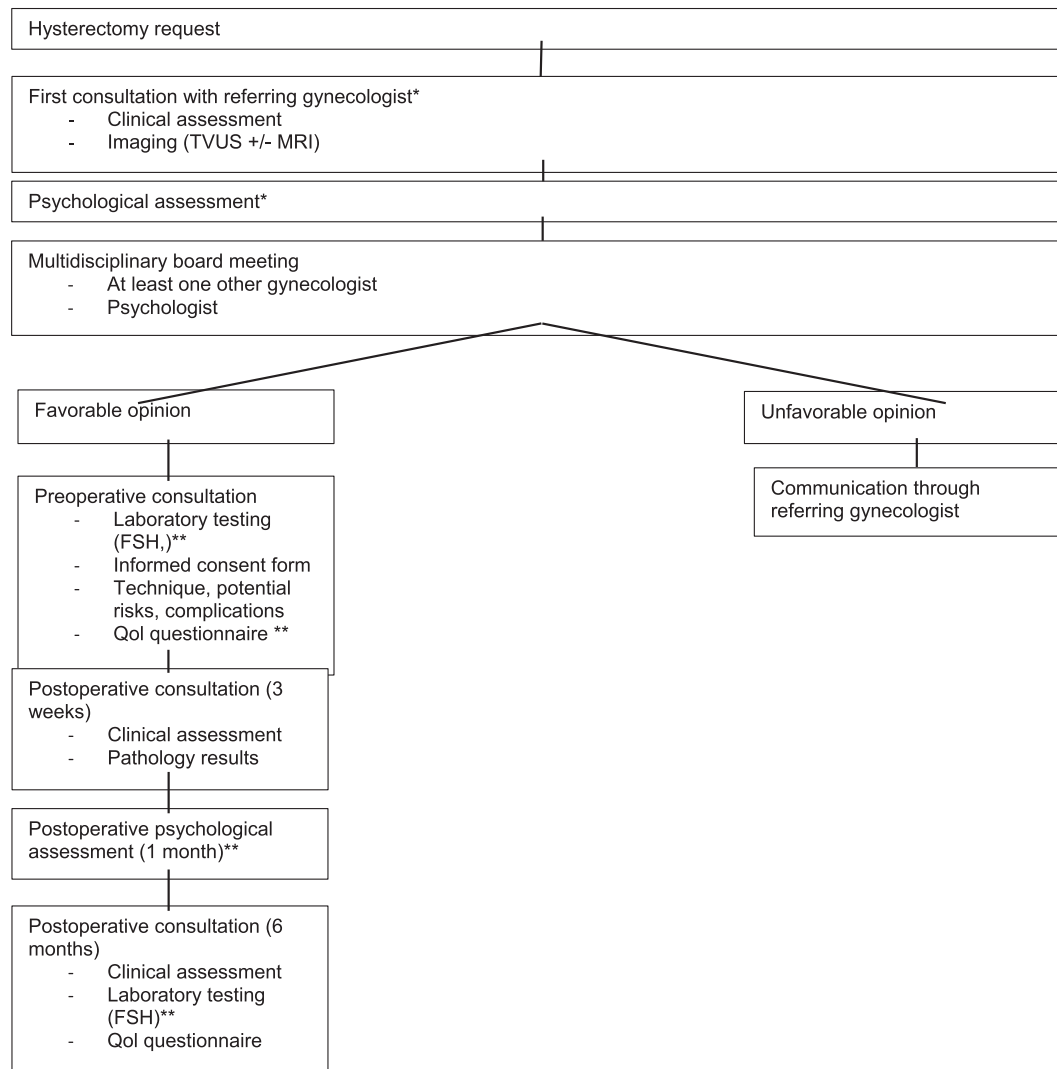
The choice of the surgical technique should be discussed with the patient, considering factors such as her morbidity and the surgeon's expertise. However, this discussion is beyond the scope of this article. Whereas we strongly support women's empowerment in shared decision-making and consider it as a marker of quality care, we are not fully comfortable accepting all hysterectomy requests from young women.

In our clinic, we have decided to accept such requests but have

Table 2

Potential long-term complications of hysterectomy without oophorectomy.

Complication	Reference	Evaluating tool	Risk	Remark
Ovarian insufficiency	Farquhar et al. (2005)	FSH	21 % versus 7 % after 5 years	Difference in younger patients not evaluated
	Moorman et al. (2011)	FSH	Time difference of 3.7 years (95 % CI 1,5, 6,0) 14 % versus 8 % after 4 years HR 1,74 (95 % CI 1,14-2,65)	No statistical difference in patients aged <40 years old HR 3,11 (95 % CI 0,55-17,60)
	Trabuco et al. (2016)	AMH	Time difference of 1,88 years. Greater decrease in AMH after 1 year (−40.7 % vs −20.9 %; $P < 0.001$)	No statistical difference in women with high baseline AMH
			More undetectable levels of AMH after 1 year (12.8 % vs 4.7 %; $P = 0.02$)	
Cardiovascular disease	Ingelsson et al. (2011)	/	HR 1,18 (95 % CI 1,14–1,22) for cardiovascular disease incidence in women <49 years after hysterectomy without oophorectomy	No data on other cardiovascular risk factors than age and socio-economic status.
	Laughlin-Tommaso et al. (2016)	/	Cardiac arrhythmias HR 1.36 (95 % CI 1,00-1,84)	Women undergoing hysterectomy with ovarian preservation were more likely to be Obese OR 1.58 (95 % CI 1.30-1.93)
			Coronary artery disease HR 2,49 (95 % CI 1,39-4,47)	Hyperlipidemia OR 1.50 (1.50; 95 % CI, 1.11-2.02)
			Congestive heart failure HR 4.59 (95 % CI 1.32-15.94)	Other chronic conditions OR 1.90 (95 % CI 1.48-2.44)



*Multiple visits are often needed

** Not routinely performed in our clinic but suggested approach for secondary studies

Fig. 1. Suggested decision algorithm for patients younger than 35 years requesting a hysterectomy.

*Multiple visits are often needed.

** Not routinely performed in our clinic but suggested approach for secondary studies.

established a protocol for them, which is illustrated in Fig. 1. We follow a structured, multidisciplinary evaluation and decision-making process for these patients. After one or multiple clinical assessments by the referring gynecologist, patients under 35 who request a hysterectomy undergo two psychological assessments. These assessments are reviewed, and the final decision must be approved by a multidisciplinary board consisting of at least two gynecologists (including the referring gynecologist) and a psychologist. The decision is obtained by consensus. If the request is declined, it is communicated to the patient by the referring gynecologist. When approved, surgical techniques, potential short- and long-term complications, risks, and the possibility of incomplete symptom relief and persistent pelvic pain [18] are thoroughly discussed, preoperatively, to ensure informed decision-making. This is followed by the signing of an informed consent form. Postoperatively, patients have follow-up consultations at three weeks and six months, with an additional psychological evaluation at one month. Additional appointments are scheduled as needed.

Given the low number of these requests, further research is crucial to investigate key factors such as regret, relief, psychological distress, and both short- and long-term complications for these patients. In the absence of such data, we strongly advocate that decision-making be guided by a multidisciplinary team. Additionally, we recommend that patients be referred to specialized care centers when the existing infrastructure is unable to provide the comprehensive support they need. To better guide these decisions and adequately respond to patient requests, there is a need for future large-scale prospective studies and ideally the establishment of an international registry which will help establish guidelines.

Contributors

Chloë Taelman contributed to review of the subject and drafting of the article.

Serge Rozenberg contributed to review of the subject and drafting of the article.

Jean Vandromme contributed to revision of the article.

Perrine Reverceux contributed to revision of the article.

All authors saw and approved the final version and no other person made a substantial contribution to the paper.

Ethical approval

Our protocol for sterilization in young women, using definitive methods has been approved by the Ethical Review board of our institution: O.M. 007 (document B0762023230212).

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Declaration of competing interest

The authors declare that they have no competing interest.

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