



Article

Are synechiae a complication of laparotomic myomectomy?

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KEY MESSAGE

The intrauterine adhesion rate after laparotomic myomectomy was 25.51%. Opening of the uterine cavity was a risk factor for adhesions.

ABSTRACT

Laparotomic myomectomy is often the only realistic solution for symptomatic women with multiple or large myomas who wish to retain their fertility. The aim of this study was to document the rate of uterine synechiae and their associated risk factors after laparotomic myomectomy. This prospective observational study took place in a teaching hospital from May 2009 to June 2014. It included all women aged 18–45 years who had laparotomic myomectomies (without diagnostic hysteroscopy at the time of surgery) for myomas and a postoperative diagnostic office hysteroscopy 6–8 weeks later. The study included 98 women with a laparotomic myomectomy and a postoperative hysteroscopic follow-up. Women with a laparotomic myomectomy for a subserosal myoma were excluded. The intrauterine adhesion rate after laparotomic myomectomy was 25.51% (25/98); 44% (11/25) of them were complex intrauterine adhesions. Opening the uterine cavity was a major risk factor for these complex adhesions, with an OR of 6.42 [95% CI 1.27 to 32.52]. Office hysteroscopy could be carried out after surgery in such cases.

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Introduction

Myomas are a frequent pathology affecting 20–50% of women of reproductive age [Marshall et al., 1997; Robboy et al., 2000; Yoshino et al., 2010]. They can lead to primary or secondary infertility, although research does not report the proportion of infertile women with myomas. Nonetheless, myomas are found in 5–10% of infertile women and are the main factor in 1–3% of infertility cases [Stovall et al., 1998]. The relation between myomas and infertility is well established for submucosal myomas, for which myomectomy improves both spontaneous and post-assisted reproductive technique pregnancy rates [Varasteh et al., 1999; Casini et al., 2006; Somigliana et al., 2007; Pritts et al., 2009; Shokeir et al., 2010; Bendifallah et al., 2011; Marret et al., 2012; Bosteels et al., 2014]. Fertility is also impaired with intramural myomas, but myomectomy does not improve fertility in these cases when myomas are less than 5 cm. Subserosal myomas do not seem to affect fertility [Klatsky et al., 2008; Metwally et al., 2011; Pritts et al., 2009; Somigliana et al., 2007; Sunkara et al., 2010].

In addition to infertility, the major complaints of women with myomas are pain, metrorrhagia, and menorrhagia. This is especially true in women with either a single myoma more than 9 or 10 cm or with multiple myomas. In these cases, laparoscopic management cannot be considered, and embolization must be avoided in young women of reproductive age [Saccardi et al., 2014].

Laparotomic myomectomy is often the only realistic solution for symptomatic women with multiple, large myomas, or both, who wish to retain their fertility. As more women choose conservative management, the number of laparotomic myomectomies is increasing. A recent study reported that laparotomic myomectomies account for 12–13% (about 3900 procedures a year from 2010 to 2102) of all procedures for uterine fibroleiomyomas [Fernandez et al., 2014]. Nonetheless, the risk of synechiae is rarely mentioned in relation to opening of the uterine cavity in such surgery [Conforti et al., 2014; Schenker and Margalioth, 1982]. In 18–50% of cases, these intrauterine adhesions do not lead to any symptoms [Lancet and Kessler, 1988]. The most frequent clinical symptoms are secondary amenorrhoea or hypomenorrhoea (10–62% of cases), especially in cases of isthmic adhesions [Berman, 2008; Deans and Abbott, 2010; Lancet and Kessler, 1988]. Diagnostic office hysteroscopy is the gold standard for diagnosing intrauterine adhesions and describing them accurately. It also frequently enables treatment of velamentous synechiae.

Currently, no guidelines call for a systematic office hysteroscopy as follow-up after laparotomic myomectomy. The aims of this study are to document the rate of uterine synechiae and their associated risk factors, to evaluate the tolerability of office hysteroscopy, and to assess the rates of residual submucosal myomas after myomectomy.

Materials and methods

Patients

This prospective observational study took place in a gynaecologic unit of a teaching hospital between May 2009 and June 2014. Women aged 18–45 years who underwent a laparotomic myomectomy (by laparotomy) for myomas met the inclusion criteria. A laparotomic approach in this institution is indicated for a single myoma larger than 9 cm

or multiple myomas (≥ 3 cm). Women who would benefit from laparotomic myomectomy for subserosal myomas only were excluded from the study because of the theoretically low risk of intrauterine adhesions.

Data collection

Data were obtained from medical records and by telephone contact. The following data were recorded: previous surgery on the uterus, indication for myomectomy, opening of the uterine cavity during surgery, number of myomas removed, myoma size, performance of preventive ligation of iliac internal arteries, use of anti-adhesion gel inside the uterine cavity, follow-up diagnostic hysteroscopy and results, other surgery, such as hysteroscopic myomectomy or hysteroscopic ablation of synechiae, subsequent pregnancy and time from myomectomy to pregnancy.

Treatment

In the month before surgery, an office hysteroscopy was carried out to ensure the absence of prior adhesion or type 0 or 1 myoma when this examination was contributory. In a large uterus, type 2 myoma can be missed.

After the myomectomy, women were offered a diagnostic office hysteroscopy to take place 6–8 weeks later. The procedure was carried out in the office with a 2.9 mm 30° hysteroscope without anaesthesia. Pain was evaluated with a simple numerical verbal scale (pain coded from 0 to 10) during the hysteroscopy and 5 min later.

Classification

Intrauterine adhesions were classified in two categories: Simple and complex.

Simple intrauterine adhesions

Simple intrauterine adhesions are velamentous in less than one-third of the cavity with no or minimal involvement of both ostia. They are often removed by the hysteroscope (type I of the March classification) [March et al., 1978].

Complex intrauterine adhesions

Complex intrauterine adhesions are fibrous or muscular, covering more than one-third of the uterine cavity and obscuring one or both ostia (types II or III of the March classification).

Ethical approval

The Comité d’Ethique de la Recherche en Obstétrique et Gynécologie (IRB approval number 2012-GYN-11-02) provided ethics approval for this study on 28 December 2012. Collection of prospective data on laparotomic myomectomy had been ongoing since 2009. In 2012, we sought International Review Board approval to report evaluation of synechiae in this population. Data were reported to the CNIL (French data protection authority), as required by law. All women were informed about the study and were given the option to refuse to participate.

Statistical analysis

The risk factors for intrauterine adhesions were assessed by logistic regression. STATA software (STATA/SE 10.0, Stata Press, College

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