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Case Report
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Polymyomectomy by Laparotomy Reporting 18 Fibroids in an Infertile Patient about a Case and Review of the Literature

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Abstract

We report the case of a poly myomectomy by laparotomy in a 30-year-old woman with secondary infertility of 8 years and a desire for pregnancy, having a large poly myomatous uterus with voluminous fibroids, diagnosed on gynecological ultrasound, with removal of 18 myomas without complications and favourable operative sequelae.

Keywords: Uterine fibroid; Myoma; Poly myomatous uterus; Fertility preservation; Infertility; Poly myomectomy; Laparotomy

Introduction

Uterine fibroids are benign, well-limited, encapsulated tumors, single or multiple, developed from uterine muscle and made up of uterine smooth muscle tissue and fibrous tissue, of variable volume and weight, most often corporal and isthmic, rarely cervical. The role of myomas in infertility is often suggested, but not established. Poly myomectomy by laparotomy is proposed for patients with a symptomatic poly myomatous uterus, who still wish to become pregnant and/or are infertile. Poly myomectomy, where possible, preserves the patient's fertility and avoids hysterectomy.

Case Report

Patient aged 30, para 2, two living children, one vaginal delivery and one caesarean section for macrosomia, secondary infertility of 8 years, presenting with pelvic pain for 4 months and hypogastric heaviness. Pelvic ultrasound showed an enlarged uterus measuring 12 cm /8 cm and poly myomatous. The patient was scheduled for poly myomectomy in view of her desire to become pregnant and preserve her fertility. A laparotomy was performed with a pfannential skin incision and removal of 18 myomas without opening the uterine cavity and without operative complications. Post-operative follow-up was favourable. Anatomo pathology of the surgical specimens confirmed the benign nature of these tumors, with no sign of malignancy (Figure 1-3).

Discussion

Uterine fibromyomas, more commonly known as fibroids, are the most frequent benign tumors in women of childbearing age. They are estrogen-dependent, more frequent in black women, and there is a familial predisposition. Contributing factors include obesity, precocious puberty, nulliparity and infertility. Protective factors are multiparity and oral contraception. Fibroids usually regress after the menopause. Macroscopically, the uterine fibroid is a firm, whitish tumor of variable shape and volume, pseudo-encapsulated, allowing cleavage between uterine muscle and fibroid, with smooth muscle fibers compacted and fasciculated on section. Microscopically, the fibroid presents as a lacis of smooth muscle fibers, intertwined with strands of fibrous connective tissue, no cytonuclear abnormalities, the percentage of smooth muscle cells and vascularization decreases with increasing size of the fibroid. Uterine fibroids are classified according to the FIGO 2011 classification (Figure 4 & Table 1).

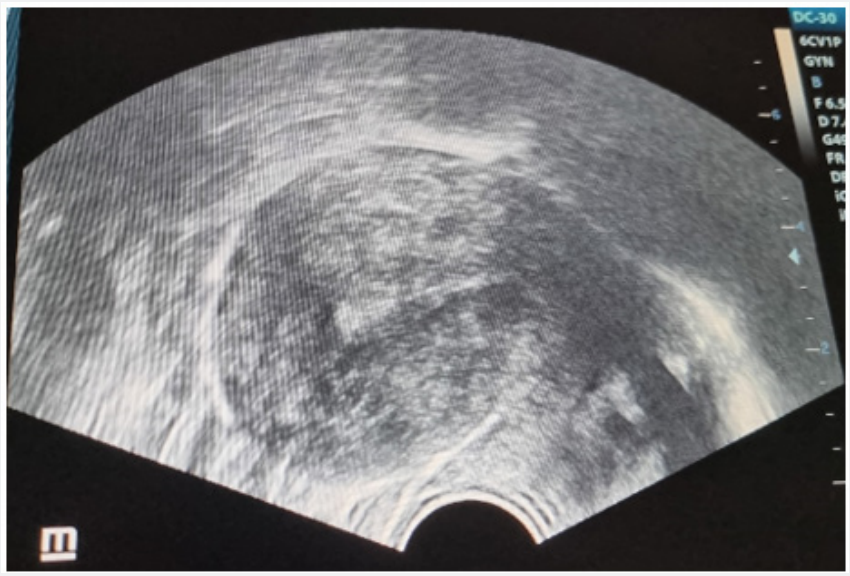

Figure 1: Polymyomatous uterus on pelvic ultrasound.

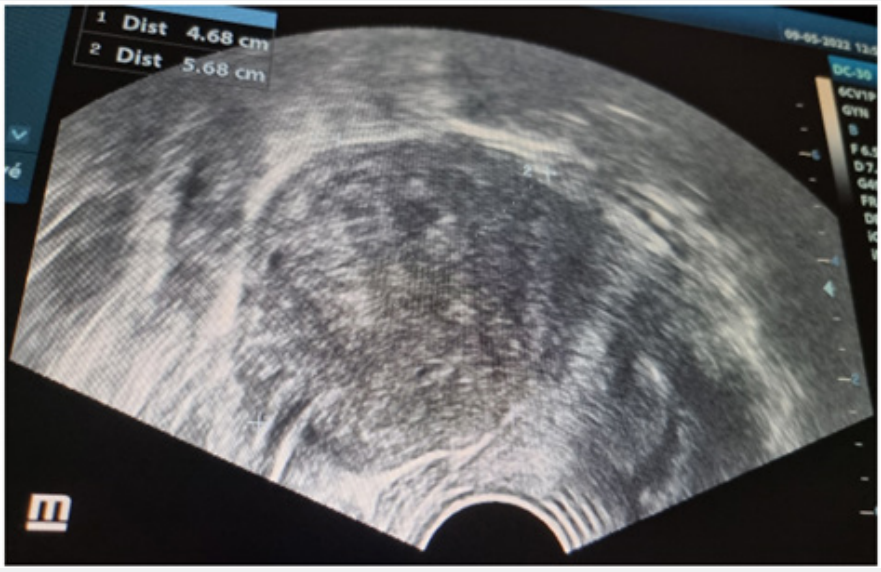

Figure 2: Uterine fibroid measuring 5,68 cm / 4,68 cm on pelvic ultrasound.

Table 1

Myoma Classification System		
Submucosal	0	intracavitary pedunculated
	1	intramural < 50%
	2	intramural ≥50%

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Others	3	in contact with the endometrium, 100% intramural
	4	intramural
	5	Subserous intramural ≥50%
	6	Subserous intramural < 50%
	7	Subserous pedunculated
	8	other (specify, for example: cervical, parasitic)
hybrid myoma (involves both endometrium and serosa)	two numbers are separated by dashes. The first refers to the relationship with the endometrium, the second with the serosa.Example :	
	2-5	submucosal and subserous, each involving less than half the endometrial and peritoneal cavities, respectively.

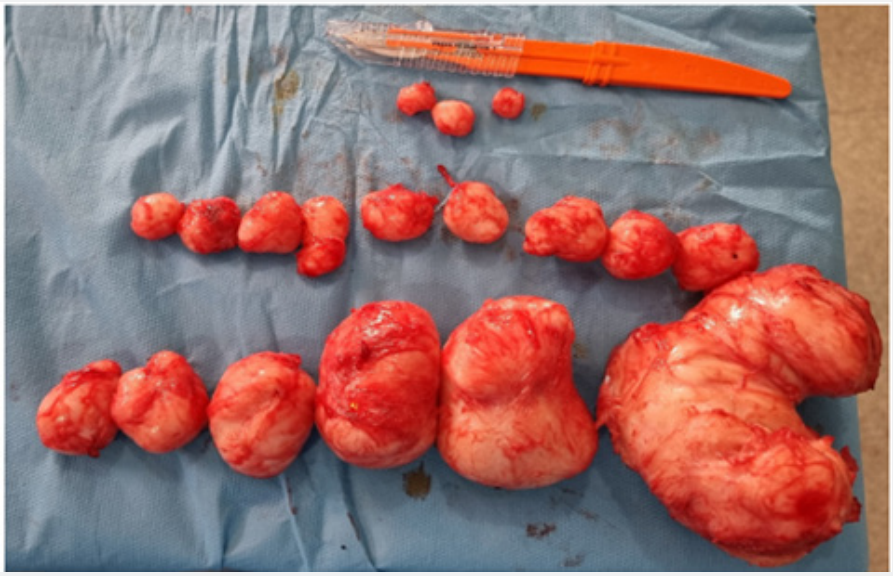

Figure 3: Polymyomectomy by laparotomy with removal of 18 myomas.

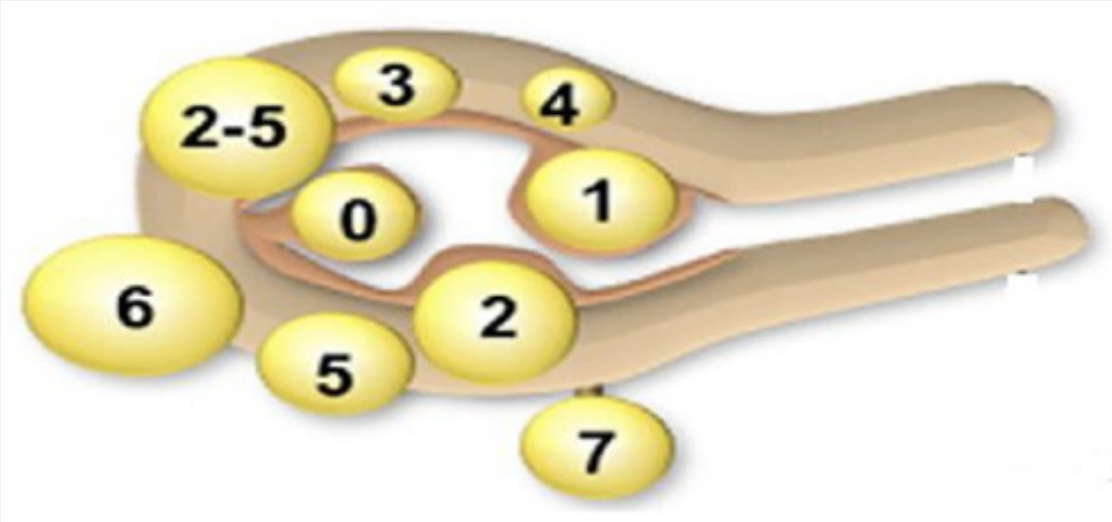

Figure 4: Uterine fibroids are classified according to the FIGO 2011 classification.

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Several theories have been put forward for the etiopathogenesis of uterine fibroids, in particular hormonal and genetic ones. Fibroids are thought to be the myometrial expression of local hyper estrogenism. Estrogen plays a role via the growth factors EGF, IGF and PDGF. Progesterone is also thought to play a role in tumor growth, either directly or indirectly via EGF. Around 20 to 40% of women will develop myomas during their genital activity [1].

Uterine fibroids are usually asymptomatic and discovered during a routine gynecological examination. Infertility may be a reason for consultation, but fibromatous etiology should not be assumed in the absence of a complete assessment of the couple. Depending on the site and size of the fibroid, clinical manifestations may include metrorrhagia, menorrhagia, pelvic pain, signs of urinary, rectal or nervous compression, common leukorrhea, hydrorrhea or pyorrhea. Myomas can also be held responsible for miscarriage in the first trimester of pregnancy [2]. The role of myomas in infertility is unclear. The prevalence of myomas appears to be higher in the infertile population [3].

Several pathophysiological mechanisms have been put forward to explain the potential link between myoma and infertility: proximal tubal occlusion, altered gamete transport, altered implantation mechanisms due to inflammatory phenomena, uterine cavity deformation, abnormal contractility and altered endometrial vascularization [4-5]. Pelvic ultrasonography is the reference examination for confirming the diagnosis of uterine fibroids, while pelvic MRI enables precise mapping of fibroids, hysterosalpingography helps clarify the intracavitary development of fibroids, hysteroscopy confirms the presence or absence of intracavitary and submucosal myomas, and endoscopic resection of submucosal myomas [6-8].

For asymptomatic fibroids discovered by chance, abstention from treatment with monitoring is the rule. Hormonal medical treatment aims to reduce menorrhagia. LH-RH analogues are useful preoperatively, making surgery easier by reducing the volume of the fibroid and correcting anemia. Embolization is aimed at necrosis of the uterine fibroid, and consists in obstructing the fibroid vascularization by injection of particles under radiological control. It can be used therapeutically as an isolated treatment, or preoperatively to reduce intraoperative bleeding. Surgical treatment of fibroids is indicated in cases of multiple myomas, large myomas, hemorrhage resistant to medical treatment, complicated forms or associated lesions. It can be conservative (myomectomy) or radical (hysterectomy), depending on age, anatomical condition and associated lesions. Myomectomy should be performed whenever possible, especially if the patient is young and wishes to become pregnant. It can be performed by laparoscopy, laparotomy or hysteroscopy in the case of intracavitary or submucosal myomas. Laparoscopic myomectomy is reserved for subserous and certain interstitial myomas of moderate size (number ≤ 2 with a diameter ≤ 8cm). The laparoscopic myomectomy technique is virtually the same for most authors [9,10], combining the following steps: vertical hysterotomy most often, enucleation, uterine suture often including two planes of Vicryl (Ethicon) stitches particularly in women wishing to become pregnant. Clip occlusion of the uterine artery vascularizing the fibroid is associated under specific conditions [11].

Laparotomy myomectomy remains the most conventional technique. It is the only option for large poly myomatous uteruses with large fibroids that cannot be operated on laparoscopically. It allows cleavage, followed by enucleation of the myoma and padding, with virtually complete exercise of the myomas and good-quality suturing. Externalization of the uterus by laparotomy, if it can be mobilized, greatly facilitates the operation. Wire ligation of the uterine arteries at the outset is sometimes possible, and limits blood loss during successive hysterotomies. Laparotomy has the advantage of enabling excellent closure of hysterotomies in several planes, but presents a significant morbidity: risk of haemorrhage with transfusion (20%), intraoperative visceral wounds and postoperative complications in over 10%: fever, parietal infection, thrombophlebitis [12,13]. Well-designed trials dealing with surgical interventions in the context of myomectomy and infertility are rare [14].

After laparotomy myomectomy indicated for infertility, whose main identified cause is the presence of myomas, the spontaneous pregnancy rate varies between 56 and 65% [15,16]. With regard to the repercussions of myomectomy on fertility, there is a risk of uterine cavity effraction with synechia formation [17]. Vascular changes may occur after myomectomy or vascular ligation, altering ovarian vascularization and consequently ovarian function. Surgical management of fibroids can be associated with morbidity. Since it has been associated with both pelvic and intrauterine adhesions, any potential benefit attributable to fibroid removal may be offset by the deleterious effects of surgery on uterine integrity. Moreover, the consequences of myomectomy on pregnancy outcomes are not negligible. It is therefore imperative that surgical management of fibroids aimed at rectifying infertility be implemented only when we have data indicating that recourse to such an intervention will lead to improved pregnancy outcomes, which we hope for our patient. in some infertile patients, surgical removal of fibroids is undertaken for reasons other than infertility, such as to relieve symptoms associated with compression or to surgically manage menstrual disorders attributable to fibroids.

Conclusion

Poly myomectomy by laparotomy remains the most classic technique and the only one possible in the case of a large poly myomatous uterus with voluminous fibroids in a woman wishing to become pregnant, enabling complete exercises of the myomas and good quality suturing. Although the effect of poly myomectomy on subsequent fertility is debated, it nevertheless enables infertile

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patients wishing to become pregnant with large, symptomatic multiple fibroids to avoid hysterectomy and preserve the integrity of their genital tract, with a view to preserving their fertility and hoping to conceive.

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