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Hysteroscopic myomectomy in a submucous fibroid 3 mm from the serosa: a case report

Case report from the endoscopy service of Ginendo-RJ

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Abstract This is a case report of a 39-year-old black woman, nulliparous, married who presented a heavy menstrual flow with clots and dysmenorrhea. Gynaecological examination of the uterus revealed RVF, mobility, no pain, slight enlargement, and right displacement. Magnetic resonance imaging (MRI) of the pelvis showed a 40 mm submucous fibroid with intramural component less than 50%, type 1, with a 3 mm distance from serosa. In an office hysteroscopy, it was noted a 40 mm submucous fibroid with an intramural component with less than 50%, type 1, classified in *STEP-W submucous fibroids classification* as a Score 6, Group II. The patient was submitted to partial hysteroscopic myomectomy, removing 60% of the fibroid volume in a 48.75-minute surgery. GnRH analogue was indicated for 3 months before another intervention. In the second evaluation MRI revealed a 22 mm-fibroid with intramural component more than 50%, type 2, with a 7 mm distance from serosa. Hysteroscopy found a 20 mm submucous fibroid, with intramural component more than

50%, type 2, Score 4, Group I on *STEP-W classification*. The patient was submitted to a second hysteroscopic myomectomy with complete removal and 10.5 minutes operating time, without complications.

Keywords Submucous fibroid · Hysteroscopy · Hysteroscopic myomectomy

Introduction

Fibroids are the most common benign tumours in the female pelvis, clinically apparent in 25% of patients [1]. They come from muscle fibres and consist of smooth muscle cells associated to conjunctive fibrous tissue in varying quantities. Incidence is higher in females in their 30s and 40s, and blacks are considered to have a risk [2].

Generally fibroids do not cause symptoms; they are found by ultrasound and do not require surgery. However, when they do present symptoms, most commonly during menacme, they can cause abnormal uterine bleeding, pain, pelvic pressure, and infertility [3].

The position of a fibroid is most important in symptom genesis. Submucous fibroids can cause more exuberant symptoms like abnormal uterine bleeding (AUB), with prolonged and excessive menstruation, requiring surgical intervention. It can also be the cause of infertility, functioning as a sperm barrier or an IUD, impeding egg nidation and making pregnancy or maintenance of pregnancy impossible.

In 1978, Neuwirth was the first to use monopolar resection to remove submucous fibroids, beginning a new approach, using minimally invasive treatment [4]. This treatment can better preserve the uterine cavity; however it is complex and does have risks.

Pre-operative evaluation of submucous fibroid is used to evaluate whether and how complex a hysteroscopic myomectomy would be. This evaluation frequently concludes with hysteroscopy and transvaginal ultrasound (USG). MRI can give better quality depending on penetration and number of fibroids.

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One of the factors associated with myomectomy complexity is fibroid penetration level; the European Society of Gynaecological Endoscopy (ESGE) classified them in three levels: type 0—total intracavity fibroid; type 1—until 50% fibroid volume in the uterine cavity; and type 2—more than 50% in the cavity [5]. In 2004, Lasmar et al. created a new classification, including four extra parameters [6].

All authors consider the distance between free fibroid and serosa an important factor related to a large number of perforations and intravasation of liquid media. Literature has still not established a maximum safe limit for performing myomectomy; in our service we consider 5 mm as the safe minimum distance.

Hysteroscopic myomectomy can be performed as a one-time operation, or in two or more operations, depending on myoma submucous classification and the importance of preserving patient reproductivity. Advincula and Song (2004) reported that type 0 and 1 (ESGE) fibroids are considered safe for a one-time resection; however, type 2 carry a high risk of uterine perforation and intravasation complications [7].

Our case report demonstrated that applying a more precise classification allows better pre-operative evaluation. These parameters make it possible to plan and successfully perform a two-stage hysteroscopic myomectomy in one submucous fibroid which is only 3 mm from the uterine serosa.

Case Report

A 39-year-old black nulliparous, married woman who sought our private service (GINENDO-RJ), had a heavy menstrual flow with clots and dysmenorrhea. Uterine fibroid had already been diagnosed, and she wished to become pregnant. She was taking verapamil hydrochloride for chronic hypertension. Menstrual cycles of 10/28.

Gynaecological examination showed a normal vulva, vagina, uterine cervix. The uterus was in RVF, mobile, without pain, a little enlarged, and displaced to the right.

Transvaginal ultrasound showed RVF uterus, with heterogenous myometrium showing a 36 mm hypoechoic nodule extending the anterior endometrium. Endometrial echo was poorly defined. Adnexae were without abnormalities.

Magnetic resonance imaging (MRI) and hysteroscopy were requested.

Hysteroscopy showed ample and irregular uterine cavity with 40 mm submucous fibroid with intramural component less than 50% of his volume, type 1. It occupied more than one third, less than two thirds of the right posterior lateral wall, in the mid and upper third of the cavity, Score 6 Group II on STEP-W classification (Fig. 1).

MRI showed RVF uterus, with a submucous fibroid with a less than 50% intramural component (type 1- ESGE), right lateral wall, measuring 40×35×30 mm (21.8 cm³). The shortest distance between the serosa and fibroid was 3 mm (Fig. 2).



Fig. 1 40 mm submucous fibroid with intramural component

After classified the submucous fibroid by hysteroscopy and MRI, hysteroscopic myomectomy was indicated. The patient was then advised of the possibility of surgical resection in a two-part operation.

Partial hysteroscopic myomectomy was performed by using a monopolar current resectoscope, with a mobilization and slicing techniques. Surgery was interrupted when 60% of the fibroid had been removed, with a 800 ml negative fluid balance, in 48.75 minutes surgery. The patient had heavy bleeding; therefore, an intra-uterine balloon was inserted in the uterine cavity for 4 hours. There were no post-operative complications and the patient was discharged in 20 hours.

We opted for three consecutive months of GnRH analogue before the second surgery to provoke contraction of the myometrium, with consequent dislodging of the intramural portion of the fibroid to the interior of the uterine cavity.

Before the second surgery, hysteroscopy showed a 20 mm submucous fibroid with intramural component

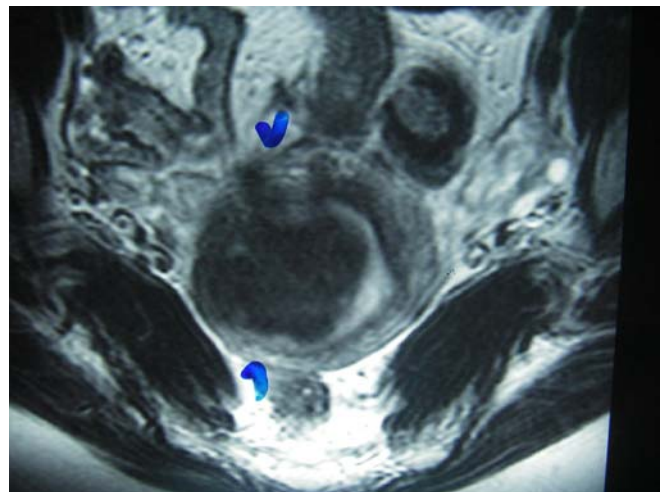


Fig. 2 MRI of 40 mm submucous fibroid with intramural component

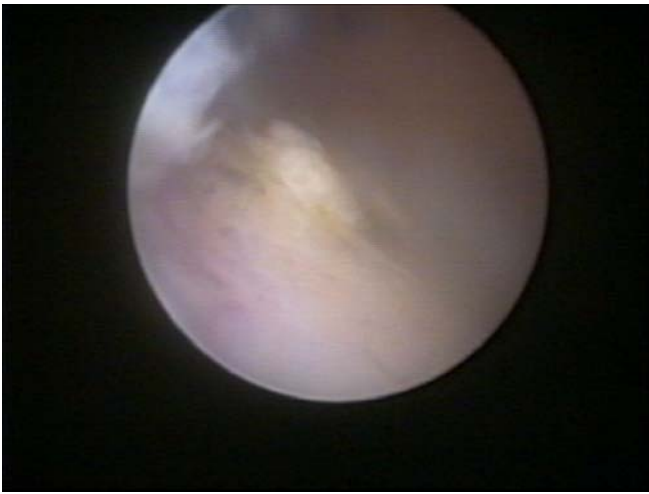


Fig. 3 23 mm submucous fibroid with intramural component

more than 50% of its volume, type 2, occupying between one to two thirds of the median third posterior wall. STEP-W classification Score 4 Group I.

MRI showed a submucous fibroid with a significant volumetric reduction in the intracavitary portion, with an intramural component more than 50% of its volume (type 2- ESGE), on the right lateral wall, measuring 22×22×23 mm. The shortest distance between the serosa and fibroid was 7 mm (Figs. 3 and 4).

Hysteroscopic myomectomy was performed with complete nodule excision, using monopolar resectoscope, with mobilization and slicing techniques, without problems. At the end of the procedure negative fluid balance was 400 ml, and operation time 10 minutes 31 seconds, and discharge was after 10 hours.

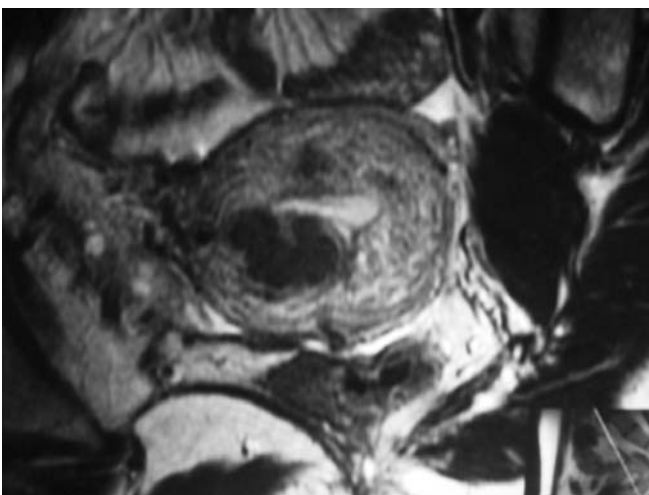


Fig. 4 MRI of 23 mm submucous fibroid with intramural component

Discussion

Hysteroscopic myomectomy of submucous fibroid with an intramural component is a very complex procedure, requiring a trained team, equipment, and careful technical procedures [8, 9].

We noted that the complexity of the hysteroscopic myomectomy is not entirely effective when it is only used the penetration level of the fibroid in the myometrium, as recognised by its ESGE classification [10, 11]. In the first exam, the type 1 fibroid represented a complex and difficult myomectomy with an interrupted and prolonged procedure, and an intracavity balloon. In the second exam, the fibroid was type 2 and surgical procedure was quick and complete, with no complications.

Use of GnRH analogue prior to hysteroscopic myomectomy was indicated to reduce fibroid size and vascularisation, reducing the chance of intra-operative bleeding and absorption of distension medium, but increasing the risk of uterus perforation [8]. For us and Campo et al. 2005 [11], this did not have any advantages. In our practice GnRH analogue is only used for patients with anaemia or before the second hysteroscopic myomectomy in an attempt to increase migration of the intramural portion of the fibroid.

With this case report we are able to widen indication for hysteroscopic myomectomy in submucous fibroids with an intramural component close to the serosa. However, more precise criteria, including hysteroscopy and MRI, are needed to classify the submucous fibroid with more parameters.

We believe that using magnetic resonance imaging, equipment, a trained team, and STEP-W classification [12] (as proposed at the XIV European Gynaecological Endoscopy Congress, Athens 2005), that hysteroscopy could be the best approach for submucous fibroids, with safer and better results for maintaining fertility.

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