Is myomectomy at the time of caesarean section a safe procedure?

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ABSTRACT

Caesarean myomectomy is a controversial and, sometimes, a challenging procedure. A 35-year-old pregnant woman with a previous caesarean section had two large fibroids of the uterine walls. Caesarean myomectomy was carried out after extraction of the foetus, born in good health. The outcome of the operation was uneventful. The postoperative course was regular; the puerpera did not need any transfusion and was discharged in satisfactory clinical condition.

KEYWORDS

Fibroid, caesarean section, pregnancy, ultrasound.

Introduction

Fibroids are common benign tumours, with a higher prevalence in women during the fertile phase. In many cases, they are discovered during either clinical examination or ultrasound (US) investigation. They may give rise to abnormal uterine bleeding, pelvic pressure, bowel dysfunction, low back pain, constipation, dyspareunia and lower urinary tract symptoms.Fibroids derive from smooth muscle cells and fibrous connective tissue. They are mainly located in the uterus. The incidence of uterine fibroids increases with age (>40% by the age of 35 years) [1]. They can occur in different sites: subserous, intramural and submucous. The intramural fibroid is the most common, ranging from 33% [1] to 35% of all myomas [2]. It increases in size due to the effects of hormones, for example during pregnancy. Its prevalence during the first trimester is 10.7%. Fibroids can be symptomatic, causing pain when they exceed 5 cm [1], and obstetric complications such as bleeding, placental abruption and preterm labour are reported [3]. Caesarean myomectomy (CM) is a controversial procedure: the choice between removing uterine fibroids or leaving them in situ must be made according to the patient's preference and a correct evaluation of both the advantages and the disadvantages of performing this further surgery. Blood loss, risk of hysterectomy and postoperative morbidity are some of the possible complications [4]. Intra-caesarean myomectomy offers the benefit of avoiding another subsequent surgery, and of preventing uterine hypotonia in the presence of a huge mass. CM, when correctly performed with expertise, is a safe procedure [5].

Case Report

A 35-year-old pregnant woman, gravida 2 para 1 (CS) at 37 weeks + 4 days, was admitted to hospital due to pelvic pain. On US investigation, a mono-foetal pregnancy with the foetus in cephalic presentation and two intramural myomas of the uterine fundus (104.2 mm and 50 mm) were found (Fig.1). These fibroids had been detected a year before the pregnancy, when they were much smaller. The patient's medical history included dysmenorrhoea and hypermenorrhoea, as well as polycystic ovary syndrome and obesity (body mass index 36). During the first trimester of pregnancy she was hospitalised twice due to threatened miscarriage. She also had hypertension, treated with alpha methyldopa (500 mg twice a day). Given the previous CS, hypertension and uterine fibroids, CS was carried out in agreement with patient, who also requested myomectomy.

CS was performed by means of a suprapubic transversal laparotomy according to Pfannestiel with lower incision of the uterine segment, after anaesthetic evaluation and spinal anaesthesia. Extraction of a male infant weighing 2,540 gr with an Apgar index of 9/10 was performed.

After placental removal, the lower uterine segment was sutured (double layer suturing) and oxytocin was administered.

An ellipsoid incision was performed on the uterine surface through the myometrium down both fibroids. Allis clamps were applied to one edge of the incision. Both forefinger and haemostatic forceps were used to sweep the myometrium off the fibroid tumour. A tooth clamp was used to grasp the fibroid tumour; strong traction and counter traction were applied to elevate the mass out. Tissue was severed with electrocautery and wall haemorrhagic sites stapled with surgical forceps (Kocher).

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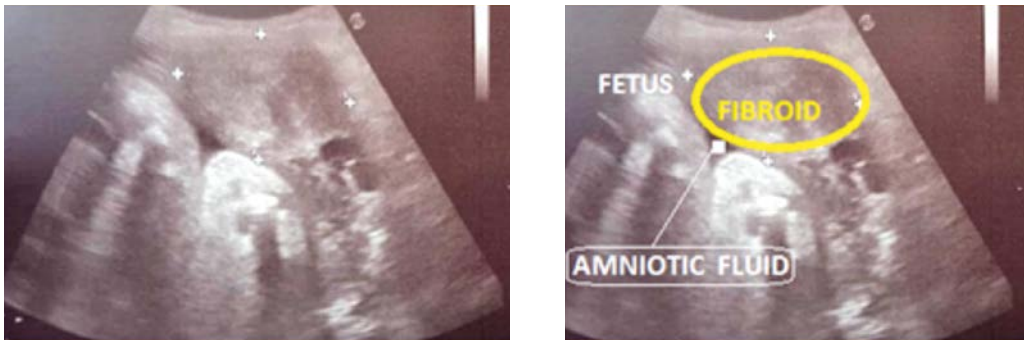
Figure 1 Ultrasound image of fibroid during pregnancy.

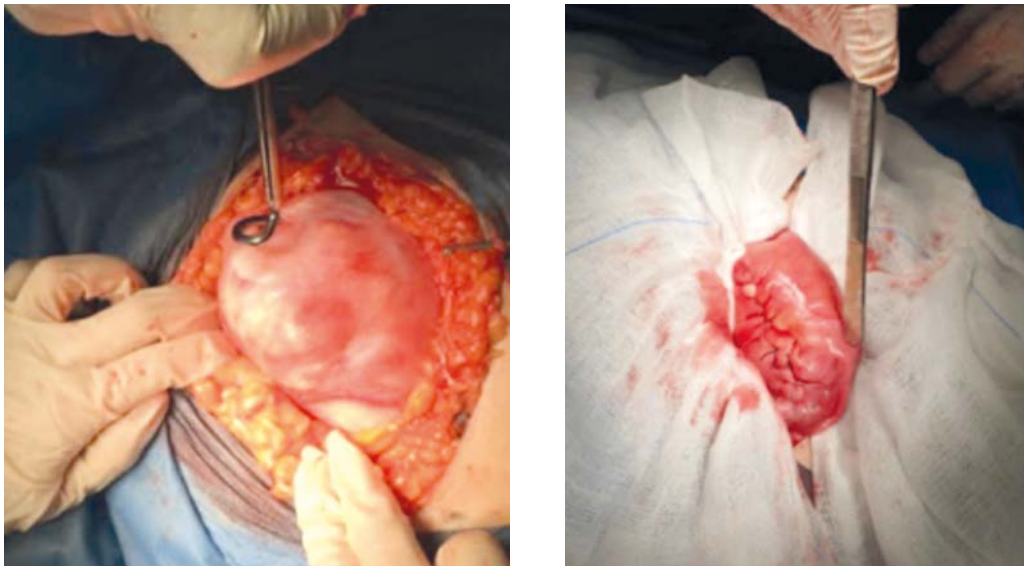


The uterine cavity under the fibroid was not open. The uterus was sutured in two layers: the former with musculo-muscular suture the latter with musculo-serous stitches (Fig.2). Before surgery, the patient's haemoglobin level was 12.5 g/dl. The procedure lasted 2 hours. After CS, haemoglobin was 9.6 g/dL, and a 250 cc blood unit with 200 cc plasma expander was administered. The histological examination confirmed the diagnosis of leiomyomata. The post-operative course was regular and after four days the patient was discharged in good condition.

Discussion

Although multiple fibroid removal can be a valid solution, the operation is challenging in some cases. Uterine myomas are prevalent in pregnant women over 35 years old [4,6]. Different risk factors in woman with myomas before and during pregnancy must be taken into account such as age, dysmenorrhoea, weight gain, and hypertension [7]. Most intramural myomas are located in the uterine body, while a small percentage occur in the isthmus or in the cervix [6]. In several studies, blood loss was related to the size of the fibroid, particularly if it was greater than 5 cm [1,8]. Moreover, obese patients needed more additional uterotonics [8]. Uterine fibroids are also associated with a higher risk of increased *post-partum* bleeding, probably, due to reduced strength and coordination of the uterine contractions [7]. Myomectomy during CS has numerous advantages. Incisions on the uterus are generally larger but become smaller after uterine retraction. Identification of cleavage plane is easier during CS, but surgery is associated with greater blod loss [9]. Regarding blood transfusion, studies are discordant and only in a few cases has it been necessary to carry it out [4,8]. Women with multiple fibroids give birth at a significantly earlier gestational age compared with women either without fibroids (37.5 ± 3 weeks versus 39.3 ± 1.5 weeks) or with a single fibroid [6]. Also, multiple fibroids are associated with a risk of preterm labour [7]. Myomas might decrease uterine contractions, or cause mechanical obstruction that restricts space, limiting foetal movement. Some authors report an increased risk of CS owing to uterine fibroids, particularly when they are huge [6,10]. Several authors highlight the increased surgical time when CS is associated with removal of several fibroids [4,5,8]. As for the neonatal outcome, there is no statistically significant difference in birthweight and rate of admission to neonatal intensive care units, but the newborns of women with uterine fibroids are more often hospitalised, probably because of prematurity [1,6,7].

Figure 2 Fibroids before and after myomectomy.



Foetal mechanical malformations as limb reduction, caudal dysplasia, head deformation and congenital torticollis can be found, due to compression, with myomas greater than 10 cm [11,12]. In our case, the newborn had an Apgar score of 9/10 and no malformations were found. In another study, removal of a large fibroid did not result in increased maternal morbidity compared with a woman who did not undergo CM [5]. The possible long-term benefits of CM include symptom and quality of life improvement, and elimination of the risks and costs of repeated surgery and anaesthesia [5,9].

Conclusion

Myomectomy during CS presents different levels of risk based on myoma location. Submucosal and intramural myomas expose the patient to greater risks of infection after opening of the uterine cavity, while subserous ones can be removed more easily, as can pedunculated myomas. The risk associated with pedunculated myomas is linked to possible torsion. Due to hormonal effects, myomas grow in size progressively during pregnancy. Fibroids, if left in situ, cause hypocontractility during postpartum. There are psychological and physical advantages to CM. As regards the psychological aspects, the patient is satisfied because a pathological condition has been removed. On a clinical level, because myomectomy causes a reduction of uterine volume, it allows valid post-caesarean contractions, which are useful for avoiding post-operative metrorrhagia.

In any case, CM remains a challenging procedure. Anaemia following the operation is sometimes considerable [13-15]. Finally, among the main pathologies of pregnancy, the removal of huge fibroids during CS must not be considered a routine procedure [16-18].

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