

Myomectomy during the first and second trimester of pregnancy

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Summary

Myomectomy was performed on five symptomatic women in the first and second trimester of pregnancy who were resistant to medical therapy. All the patients ended their pregnancies without complications. Three patients of five (60%) underwent spontaneous delivery while the other two patients (40%) had cesarean section. Myomectomy during pregnancy, when necessary, is proving highly effective today.

Key words: Myomectomy; Pregnancy; First trimester; Second trimester.

Introduction

Uterine myoma is the most common benign tumor of the female genital tract [1]; During pregnancy it appears with a frequency from 0.5% to 5% [2]. Although in most cases it remains asymptomatic during the entire period of pregnancy, in 40% of women it could still determine the onset of some complications, such as abdominal pain, premature rupture of membranes, untimely detachment of the placenta, postpartum hemorrhage, preterm delivery, intrauterine growth retardation and sepsis in the puerperium [3]. Symptoms are strictly correlated to the dimension and localization of the myoma [4].

The objective of our study was to demonstrate that myomectomy represents a valid and necessary solution in symptomatic pregnant women resistant to medical therapy. In particular, we evaluated the onset of possible postsurgical complications during the course of pregnancy until delivery.

Materials and Methods

Between October 2005 and October 2006, at 'San Pietro Fatebenefratelli' Hospital in Rome, five pregnant women underwent laparotomic myomectomy, with a total of nine myomas removed. The criterion for inclusion in the study was the presence of at least one uterine myoma in symptomatic patients during the first or second trimester of pregnancy. Indications for surgery were rapid growth and/or alarming dimensions of the myoma accompanied by strong pelvic pain resistant to medical therapy. During the preoperative phase the patients underwent hematochemical exams, electrocardiograms and obstetric echography. The condition of the fetus and the localization, number and position of all the myomas were evaluated.

Surgical technique

Myomectomy was executed by a transverse abdominal incision (Pfannenstiel type). Subsequently, we explored the abdominal cavity and in particular the uterus; in all cases uterine

volume was adequate for the gestational age. After localizing the myoma we performed the myomectomy according to the typical technique, carefully suturing the uterine scar. At the end precise hemostasis with an electrocoagulator, peritonization and suturing of the abdominal wall were carried out. In the postoperative period we did an obstetric echography to evaluate the status of the fetus. All the patients underwent accurate monthly clinical and ecographic controls until delivery.

Results

Five patients underwent surgery; the mean age was 34.4 (range: 30-37 years) and the mean gestational age at the time of surgery was 11.8 weeks (range: 9-15 weeks). The mean time for surgery was 40 minutes (range: 30-50 minutes) and the mean blood loss was 278 ml (range: 198-358 ml). A total of nine myomas were removed; there was myomatous degeneration as ischemic necrosis in two of them. The mean dimension of the myomas removed was 7 cm (range: 3.5-14.5 cm). Three myomas of nine removed were subserous: two were localized in the posterolateral wall of the uterus and one in the antero-fundic wall. Six of nine were peduncolated: four in the anterior wall and two in the lateral wall. All the fetuses were alive at the ecographic exam the day after surgery and their biometry was accordant with the period of amenorrhea. Ecographies and the clinical controls executed during pregnancy until delivery were also normal. Mean gestational age at delivery was 38.2 weeks; the two patients (40%) who had subserous myomas underwent cesarean section while the three patients (60%) who had peduncolated myomas had spontaneous deliveries. Mean Apgar score was 9 ± 0.83 and mean gestational birth weight was 3,340 g (range: 3,200-4,072 g). No patient required a blood transfusion.

Discussion

Uterine myomas are the most common female pelvic neoplasms. They appear in almost 20% of women during reproductive age, frequently because the continuous

Table 1.

| | Pt 1 | Pt 2 | Pt 3 | Pt 4 | Pt 5 |
|-------------------------------------|-----------|----------------|------|-------------|-------------|
| Age | 34 | 34 | 37 | 30 | 35 |
| No. of myomas removed | 2 | 2 | 1 | 2 | 2 |
| Type of myoma | P/SS | P/P | P | P/P | P/SS |
| Dimension of myoma | 7 cm/3 cm | 14.5 cm/3.5 cm | 9 cm | 7 cm/5.5 cm | 7 cm/6.5 cm |
| Gestational age (weeks) | 14 | 9 | 10 | 15 | 11 |
| Degeneration | 1 | — | — | — | 1 |
| Time of surgery (min) | 45 | 35 | 30 | 45 | 45 |
| Type of delivery | CS | SD | SD | SD | CS |
| Gestational age at delivery (weeks) | 38 | 39 | 37 | 39 | 38 |

P: pedunculated; SS: subserous; CS: cesarean section; SD: spontaneous delivery; Pt: patient.

estrogen blood level influences and stimulates their growth. Most myomas increase in dimension during the first trimester of pregnancy while only a few continue to grow during the second and third trimester [5]. Myomectomy during pregnancy, when necessary, is proving highly effective today [6]. Although Phelan [4] indicates surgery in cases of degenerated myomas resistant to medical therapy, he also suggests it be performed only in circumstances of pedunculated myomas where the pedunculus is no larger than 5 cm. In fact, in these cases, the risk of bleeding is very low because the area of dissection of the myoma from the uterine surface is limited. Burton *et al.* [7], however, suggest that only myomas with a pedunculus over 5 cm should be removed because torsion on their axis could determine necrosis of the tumors themselves. Exacoustos and Rosati suggest removal of large subserous and/or pedunculated myomas, especially if near the placenta [8]. Mollica *et al.* indicate some criteria for surgery: recurrent pain, large myomas, rapid growth, and localization in the inferior uterine segment or near the placenta [3]. The risk of complications strongly increases in cases of retroplacental myomas [9]. Makar *et al.* suggest execution of myomectomy during pregnancy in cases of increasing abdominal pain associated with fluid of almost 12 cm in the Douglas pouch [10]. In our study the only indications for surgery were myomas of large dimensions associated with strong pelvic pain or rapid growth, or pedunculated myomas with suspicion of torsion. Usually myomectomy is inadvisable during pregnancy [11]. If surgery is necessary, it should be performed between the 4th and the 6th month of pregnancy [2]. Michalas *et al.* indicate that the optimum

period for surgery is between the 14th and the 15th week of pregnancy [12]. Abortion and hemorrhage are the most serious complications associated with myomectomy [13]. In our study we had no evidence of complications after surgery. On the other hand, surgery in these pregnant women could determine a reduction in the occurrence of complications related to the presence of the myomas themselves. In fact, all the patients ended the pregnancy and only two underwent cesarean section; in no case was there premature rupture of membranes nor preterm delivery. In conclusion, our study shows how myomectomy could be considered as a safe therapy in the treatment of myomas in symptomatic pregnant women, substantially improving the outcome of pregnancy and avoiding the possible complications related to the presence of myomas during the pregnancy itself.

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