Surgical management of leiomyomata in pregnancy

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Summary

A review was made of the medical records of 26 patients with uterine myomas during pregnancy between 1983 and 1992 among 12965 deliveries. Thirteen patients underwent myomectomies before pregnancy. In three patients myomectomy was performed during pregnancy between the 12th and the 19th week of pregnancy.

In ten patients myomectomy was performed during cesarean section delivery to prevent necrobiosis. Myomectomy should remain exceptional during pregnancy and it must be performed only in selected cases but is frequently used towards the end of a cesarean section. Indications for hysterectomy, on the other hand, remain limited.

Key words: Myomectomy, Uterine myomas, Pregnancy complications.

Introduction

Leiomyomas in pregnancy are the most frequently encountered solid pelvic tumours: the reported incidence ranges from 0.3 to 2.6 per 100 births, depending on age and race of the studied population [1-7].

Leiomyomas with a diameter between 3 and 5 cm have an incidence of 60%, those between 5 and 10 cm 30% and those more than 10 cm 10% [2].

Those of the intramural and subserous type are more frequent than the submucous type [2].

Ultrasonographic examination is able to define the dimensions and position of leiomyomas. Intramural leiomyomas sometimes cause an ectopic pregnancy, fetal malpresentation, uterine inertia and postpartum hemorrhage. Leiomyomas of the subserous type cause more frequent abortions due to the reduction of the uterine cavity and alterations in blood circulation.

The most frequent complication during pregnancy is red degeneration with percentages ranging from 28% to 30%; while the torsion of pedunculated myomas is very rare (1-3%) [2, 8].

The treatment of necrobiosis aseptica is generally bed-rest, hydration, analgesics, ß-mimetics, and antibiotics [3, 9].

The indication of myomectomy in pregnancy is limited to the torsion of subserous pedunculated myomas and red degeneration which does not respond to treatment [1, 2, 3, 8-12].

In this study our limited experience of three cases of myomectomy in pregnancy and ten during cesarean section deliveries is reported.

Material and Methods

From 1 January, 1983 to 31 December, 1992 a retrospective research on medical records of pregnant women admitted to Department B of the Institute of Obstetrics and Gynecology at the University of Turin, Italy was carried out.

Of those admitted:

– 13 patients underwent myomectomy before pregnancy.

– 3 patients underwent myomectomy during pregnancy.

– 10 underwent myomectomy during cesareans section deliveries.

– 14 had myomas during pregnancy treated medically.

Results

There were 12,965 deliveries in Department B of Gyencology and Obstetrics between 1983-1992. Before pregnancy 13 patients had myomas and had single or multiple myomectomies.

Pregnancy started after a period ranging from nine months to four years after surgical treatment and always resulted in a cesarean delivery without complications at the 38th-39th week.

Fourteen patients had myomas during pregnancy: three had abortions and subsequent transvaginal ultrasonographic examination showed submucous myomas.

Most of the 14 women were asymptomatic; in two preterm labour was reported with live and viable births, two were hospitalized with abdominal pains and received medical treatment.

In one case, to relieve pain, a catheter was inserted at the 28th week and analgesics were administered for a week.

Three myomectomies were performed between the 12th and 19th week of pregnancy.

In all three cases surgical treatment was carried out due to abdominal pains caused by aseptic necrobiosis (red degeneration of the myoma).

In one case the gestational sac was cut by accident followed by a miscarriage.

In the others the pregnancy continued without problems and cesarean section were performed at the 37th and 38th week, respectively.

There were no complications, hemorrhage or subinvolution of the uterus, immediately after surgery or in puerperium.

Intramural myomectomy on the corpus and lower segment of the uterus was performed during cesarean section to prevent necrobiosis.

Ten women had myomectomies during cesarean section for other reasons; myomas were intramural, subserous and, in most cases, asymptomatic during pregnancy.

The pathological-anatomic aspect of the myomas removed (both the 3 during pregnancy and the 10 removed during cesarean section at the end of pregnancy) showed three different types of degeneration, often associated: hyaline degeneration, cystic degeneration, aseptic necrobiosis.

Discussion

The incidence of myomas in pregnancy varies from 0.3% to 2.5% [1-7].

Twenty years ago diagnosis of myomas in pregnancy was made after a physical examination and could be seen only if very large. Nowadays diagnosis is made with the aid of ultrasound examination which reveals myomas of even small dimensions.

Our study showed 20 cases for each 10,000 births. During pregnancy complications arise in 10-40% of patients with myomas, depending on the studies taken into consideration [4, 5, 6, 13, 14]. The percentage was higher in the past (57-80%) as only the larger myomas, which caused more complications, were diagnosed [15, 16]. In our study, 66% of women were asymptomatic.

The most common complications were: abortions, preterm labour, compression, aseptic necrobiosis pain, premature rupture of the membranes, fetal malpresentation, retained placenta, postpartum hemorrhage, puerperal sepsis [2-6, 9, 13, 17].

Most authors have emphasized a different incidence of complications depending on the dimensions and position of the myoma in relation to the placenta [4, 6, 13, 18, 19].

Muram *et al.* observed that patients with leiomyomas in contact with the placenta have a higher incidence of premature rupture of the membranes, loss of blood during pregnancy and postpartum hemorrhage [4].

Rice *et al.* demonstrated that patients with myomas with a diameter greater than 3 cm, have a higher risk of preterm labour, abrutio placentae, pelvic pains and cesarean section deliveries. Myomas with a diameter of less than 3 cm did not seem to be connected with clinical symptoms and abrutio placentae was more frequent in patients with retroplacental myomas [6].

According to Lev Toaf *et al.* the position of the myoma in relation to the placenta does not modify the prognosis [14].

Davis *et al.*, (who had 37% of complications in their cases), believe that neither the position, dimension nor the number of leiomyomas modify the prognosis [18].

An Italian study has noted that patients with leiomyomas have only a higher risk of giving birth by cesarean section [7].

In our case series all patients undergoing myomectomy before or during pregnancy gave birth by caesarean section, but one having a miscarriage.

Out of 27 cases with both pregnancy and myomas, three had spontaneous abortions, one had an abortion following myomectomy, two gave birth between the 33rd and 35th weeks of pregnancy, 12 had cesarean section, nine had a vaginal delivery.

The most common complication is the syndrome of painful myomas, described as red degeneration, aseptic necrobiosis, carneous degeneration and hemorrhagic infarction [1, 2, 5, 15, 20].

In our cases this complication was observed in six patients. This syndrome includes pain, nausea, vomiting and fever.

The usual treatment is bed rest with analgesics, hydration, antibiotics and tocolitic agents [1, 2, 3, 5, 9, 10, 15, 16, 20). For one of our patients, a peridural catheter was inserted and analgesics were given for four weeks.

Katz *et al.* have advised against the use of ibuprofen 600-800 mg every 6 hours after 34 weeks because of the risk of fetal complications such as premature closure of the ductus arteriosus, neonatal pulmonary hypertension and platelet dysfunction [5].

Dildy *et al.* have suggested the use of Indomethacin with a dosage of 25 mg orally every 6 hours, which can be continued for 48 hours after the symptoms resolve [21].

Non steroidal anti-inflammatory drugs are used because of vascular insufficiency, leading to ischemia and necrosis, may stimulate local inflammation, mediated by prostaglandin synthesis [22, 23].

Fetal complications are especially the premature closure of the ductus arteriosus and oligohydramnios.

There are various hypotheses to explain the etilogy of aseptic necrobiosis: bleeding inside the myomas, infarction with rapid increase and incapability of supplying nutrition al demands, rapid increase of myomas [2, 20, 24, 25, 26].

If symptoms of pain persist after 72 hours of therapy, surgical intervention must be considered [1, 21].

Myomectomy, during pregnancy, is to be carried out only in execptional cases [2, 27, 28, 29]. Indeed, there are some authors who disagree with the use of myomectomies in pregnancy [1, 5, 14].

Indications for myomectomy are torsion of subserous pedunculated myomas with acute abdomen, nonresponding to treatment, of red degeneration, and suspician of an ovarian tumour [1, 2, 3, 8-12].

There are two basic complications of myomectomy abortion and hemorrhage, in particular during surgical intervention [1, 2]. Davis reports a 25% percentage of abortions in a group of 44 patients [30]. Glavidin *et. al.* had a percentage of 18% in a group of 11 patients [3]. Exacoustos and Rosati reported their experiences with 13 cases – intervention was carried out before the 26th week and childbirth took place at least 7 weeks after the intervention. There were no fetal deaths [9].

Therefore, we have come to the conclusion that, even with our limited experience, we are in agreement with other authors and recommend cautions limited myomectomies during pregnancy. Before resorting to intervention, all available medical therapies should be used: anal-

gesic infusion by peridural catheter for 4 weeks, allowed us to bring a patients with aseptic necrobiosis appearing at the 28th week due to violent pain to the 37th week (red degeneration was confirmed on the myoma during the cesarean section).

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