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Myomectomy and Pregnancies

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Research Article

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Abstract

Uterine fibroids may be encountered with pregnancy and many obstetricians will inevitably confront the dilemma of how best to manage fibroids causing complications in a gravid uterus. We describe one case of unavoidable caesarean myomectomy and myomectomy performed for the management of complications during pregnancy.

Keywords: Uterine; Fibroid; Caesarean Section; Myomectomy; Pregnancy

Introduction

Myomas may cause infertility [1-3] and, in addition, may determine complications during pregnancy [4-6]. Unfortunately, the data regarding myomectomy for reproductive reasons are limited; they are mainly based on retrospective studies [2,3] (Figure 1).

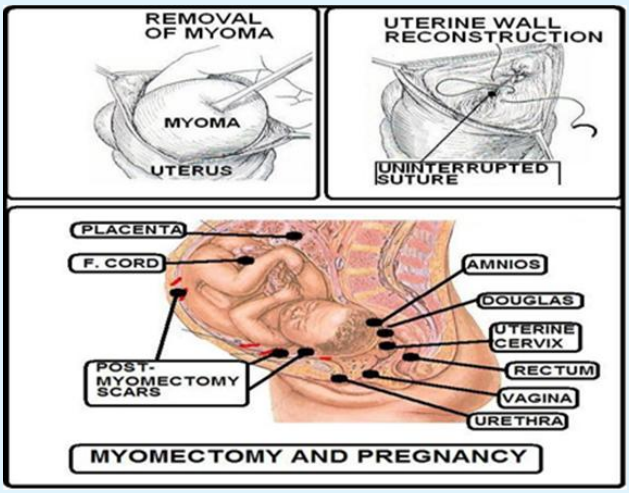

Figure 1: Myomectomy and Pregnancy.

Till now, myomectomy has been considered a controversial procedure in non-fertile women: some authors suggest conservative surgery when there are no additional factors interfering with the pregnancy; whereas others are in favour of waiting [2,3,7-15].

The previous doubts are correlated with the different hypothesis with which myoma can determine infertility; few reports are published on the efficacy of the treatment [16].

The pregnancy rate following myomectomy ranges between 55% and 76.9% [17-21]. These studies are limited owing to few cases, variable follow-up and additional factors [22].

The association between infertility and either intramural or subserous myoma without the abnormality of the uterine cavity is still controversial on the contrary, [2,3,10,22] submucous myomas, that range between 5 and 8% of patients are considered responsible factors interfering with pregnancy [19-21,23]. The main symptoms correlating with pregnancy are as follows: bleeding, pelvic pain, abortion, abnormal presentation, postpartum haemorrhage, puerperal infection [2,23]. Submucous myoma can decrease uterine contractility thus reducing spermatic migration; besides, the vascular and morphologic modification of endometrial cavity is a relevant obstacle for implantation [24-26]. The aim of this report is to evaluate fertility and pregnancy outcome following laparotomic myomectomy.

Material and Methods

From 1988 to 2003, 473 patients within the fertile age underwent myomectomy surgery at the 1st Obstetric and Gynecological Clinic of Catania University.

Surgery was performed in all cases by laparotomic route with the exception of the cases which undergone at the same time other surgery.

The incision of the uterine wall was performed by electro surgery; during the operation, atraumatic skilfulness of microsurgery was performed (continuous washing of tissue and meticulous haemostasis by bipolar).

Usually, the uterine wall reconstruction was made in one-two layer suture using vicryl uninterrupted suture (Figure 2). Serous layer was closed with continuous introflectent suture [27-33].

To avoid adherence formation interceed was used. In the case of multiple myomectomy, therapy with GnRh analogues was suggested. Mean follow-up was 5.2 years with a range of 1-13 years.

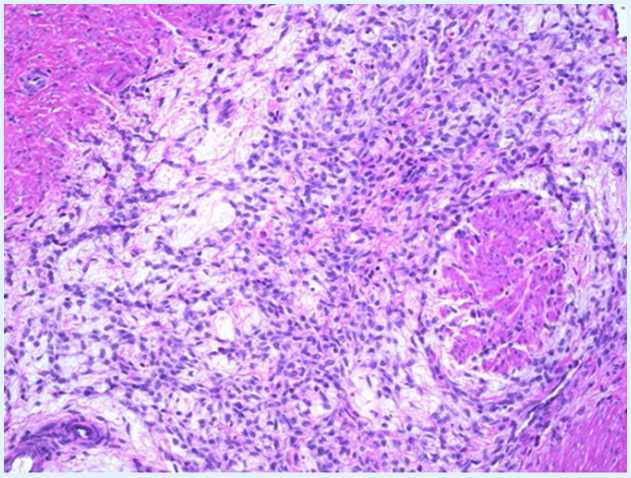

Figure 2: Vicryl Uninterrupted Suture.

372(78.6%) were evaluated regularly at the follow-up; the others 101(21.4) were contacted by telephone or by e-mail.

Each patient was asked news about the onset, the course and the exit of pregnancy following myomectomy, as well as eventual recurrences.

Results

We have subdivided the patients into three groups in relation to their age: A GROUP< 30 years 102(21.5%), B GROUP 30-39 years 281(59.4%), C GROUP 40-49 years old 90(19.1%); the most representative range was between 30 and 39 years of age (59.4%) (Table 1).

Age range	Number of patients	%
A Group < 30 years old	102	(21.5%)
B Group 30-39 "	281	(59.4%)
C Group 40-49 "	90	(19.1%)

Table 1: Patients age.

Characteristics of myomas are shown on Table 2.

	Number of patients	%
Site		
Submucous	75	15.8%
Intramural	274	57.9%
Subserous	124	26.3%
Number		
Single	226	47.7%
Multiple	247	52.3%
Size		
<5 cm	95	20.1%
5-9 cm	292	61.8%
>9 cm	86	18.1%

Table 2: Characteristics of myomas.

As regards the characteristics of myomas we have noticed that the most part had an intramural location (57.9%) followed by the subserous (26.3%) and by submucous myomas (15.8%). In our casuistic, small submucous myomas were excluded because treated hysteroscopically.

No differences were found between number (single o multiple), resulting an incidence of 47.7% and 52.3% (P<0.0001), respectively.

Myomas size was between 5 and 10 cm in 292 patients (61.8%), 5 cm in 95 patients (20.17%) and
10cm in 86 (18.1%)

The indications to myomectomy are shown on Table 3.

Indication	Number of patients	%
Blood loosing	98	20.7%
Pelvic pain	163	34.5%
Size of myoma	78	16.4
Sterility	75	15.9%
Infertility	46	9.7%
No symptoms	13	2.7%

Table 3: Myomectomy Indication.

Pelvic pains consist of the pre-dominant symptoms (34.5%) followed by blood loosing (20.6%); whereas sterility and fertility weight upon 15 and 9.7%, respectively.

67.8% (321/473) were nulliparae, 15.3% referred to have previously 1 or more abortions (respectively 8.9% and 6.4%), whereas 80 patients (16.9%) had one or more pregnancies at term.

A very few intra e postoperative complications were found. Only 5 (1%) patients requested haemotransfusion.

Feverish postoperative course happened in 1% .

In no cases hysterectomy was done owing to complications. Post-myomectomy pregnancy rate (PR) is shown on Table 4.

	Patients number	PR
Whole PR	157/230	68.2%
PR on patients with	34/74	45.3%
PR on patients with	22/46	47.9%
PR on patients with multiple indications	101/110	91.8%

Table 4: Post-myomectomy pregnancy rate.

Only 230 patients among 473 patients wanted their pregnancy; whole pregnancy rate was of 68.2% (157/230 patients).

Subdivision relating surgical indication evidenced the most significant value in the group with different indications from infertility and sterility (91.8% versus 47.9%-45.3%).

Regarding the correlation between the age of the patient at the time of surgery and the pregnancy rate, we have noted a greater incidence of pregnancy (72.2%) in women younger than 35 years of age whereas in those older than 35 years, 52.4% obtained pregnancy (Table 5).

Age	Patients number	PR	PR
	230	157	68.2%
<35	169	122	72.2%
≥ 35	61	32	52.4%

Table 5: Correlation between patients' age and PR.

Among 157 pregnancies, 17(11.3%) were spontaneous abortions, 13 (8.7%) preterm deliveries, 120 (80%) pregnancies at term and, finally, 7 are in progress.

11.4% (18 patients) had their pregnancy within 12 months, 44.6 % (70 patients) had their pregnancy after one year from surgery and 44%(69 patients) after 2 years.

Regarding the modality of birth, caesarean section was performed in 55.6% (74 patients) and vaginal birth in 44.4% (59 patients).

As for as the weight of the newborns, in 81.2 % the weight ranged between 10° and 90° percentile. During the period of follow-up (range 1-13 years) 76 patients had recurrences of myoma (16%): of these 48.6% requested further surgery.

Discussion and Conclusion

Uterine myoma represents a benign tumour that frequently develops during the fertile age. In our cases, the period of 30 and 39 years of age (59.4%) was the most involved. We believe opportune to perform laparotomic myomectomy on the patients who are still wanting pregnancy when multiple and voluminous myomas are found.

Among complications, only 1% had post- surgical hyperpexia and haemotransfusion.

Our pregnancy rate, 68.2% is in line with other studies conducted on patients who did not show other causes of infertility: 72.4%, 60% [34,35].

The pregnancy rate in the group of patients with positive anamnesis for infertility or sterility (56/121) suggests that the presence of intramural myomas (that represent the majority of our casuistics) could influence negatively on the fertility.

The pathogenic mechanism could be conducted to an alteration of normal uterine contractility or to a reduced haematic flow in the endometrial site that could interfere both with spermatic migration or with the implantation of the ovum. Among the factors preventing pregnancy after myomectomy, we may consider the age of patients; pregnancy rate reaches 72.2% on women < 35 years, whereas 52.4% in women ≥ 35 yearsold. Our data are in accordance with other authors [36] who consider the age, the main factor determining pregnancy rate.

With regards to the modality of delivery following myomectomy in our casuistic, caesarean section was performed in 55.6% of cases, whereas vaginal delivery in 42.1%. No uterine rupture was recorded. Laparotomic

myomectomy is a procedure with few complications; in most cases following preservative operation, the patient obtains the pregnancy with a satisfactory outcome.

The influence of the myomas on the fertility is still controversial owing to difficulty in evaluating efficacy of treatment in a sterile patient; the selection of women where myoma is the only factor preventing pregnancy is very hard [37-44].

Furthermore, it is very interesting to note that more than half of the patients operated for myomectomy because of either polyabortivities or sterility obtain a successful pregnancy in a short period.

Evaluating previous considerations, the laparotomic myomectomy is a suitable procedure for patients suffering with uterine myomas and sterility not understood; in addition, it should be judged elective surgery on women at reproductive age, desiring pregnancy while still young.

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