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*Fertility following laparoscopic uterine myomectomy in an infertile  
patient treated for 10 years. Case report*

The presence of myomas in the uterus is an important factor both in primary and secondary infertility. Hasan et al. (6) report that 43% of women in childbearing age with the diagnosis of uterine myomas were treated for infertility for at least 2 years. Myomas are likely to reduce contractility of the uterus, hinder migration of sperm and the vascular changes within myomas themselves interfere with embryo implantation (9). The location, size and number of myomas determine the outcome of infertility treatment. In the cases of myomas diagnosed in women who want to preserve their reproductive abilities, the most sparing management should be taken into consideration. The methods of treatment alternative to surgical procedures include: myolysis, cytomolysis and myoma embolization (2, 3, 14). However, the most common and effective method used is still operative treatment. The sparing myomectomy is indicated both for infertile women and any group of potential mothers. Rosenfeld (10) recommends myomectomy in all patients treated for infertility for more than 2 years. Other authors (12, 13) suggest that myomectomy should be performed before selecting the patients for the IVF programme. The effectiveness of laparoscopic myomectomy ranges from 44 to 62%. Therefore, myomectomy seems to be a method of choice, particularly in those cases in which other factors of infertility were excluded. Thanks to the recent development in endoscopic techniques, laparoscopic myomectomy became an effective method supporting classical laparotomy still performed in many centres (11).

CASE REPORT

A 35-year-old patient, W.M. (case history-1143/18346) was admitted to the Department of Reproduction and Andrology, Medical University of Lublin for the diagnosis and

treatment of infertility. The case history data revealed that the patient had undergone diagnostic laparoscopy in October 1989 followed by laparotomy due to the left ovarian cyst. In December 1993 the patient was subjected to hysteroscopy and the uterine partition (septum) reaching 1/3 of the uterine cavity length was found. During the operative procedure the partition was removed and patency of the Fallopian tubes confirmed. In February 1994 the patient was rehospitalized and underwent second hysteroscopy during which the remaining parts of the uterine partition were excised and patency checked – the tubes were bilaterally patent. Due to unsuccessful attempts to conceive the patient was selected for the IVF programme. She took part in this programme twice: in November 1994 and in June 1995. Both attempts failed. In October 1999 the patient was admitted to our Department. The gynecological examinations showed the enlarged uterus with the posterior wall myoma about 6 cm in size. The appendages were bilaterally normal. The patient was selected for the laparoscopic procedure which was performed on 22.10.99. The procedure revealed: the enlarged uterine body with uneven surface and an intramural myoma originating from the posterior wall, slightly to the right, about 6 cm in diameter, two subserous myomas – about 15 mm in diameter in the uterine fundus and left corner, one subserous myoma descending low to the neck of the posterior wall – about 20 mm in diameter. The size of the right ovary with the features of ovulation was normal. The right uterine tube was found to be fully patent. The size of the left ovary was normal, the left tube – patent. In the peritoneal cavity, numerous rete adhesions with the anterior abdominal wall, adhesions of intestines with the anterior abdominal wall on the right, an adhesion of the small intestine with the ovary, Fallopian tube, subovarian fossa on the left and with the peritoneal Douglas' pouch were detected. During the procedure the adhesions were removed and the intestine, rete and left appendages mobilized. Then 5 myomas were excised using a bipolar electrode and scissors. The sites of the largest myoma were sewn with 3 single sutures. Four myomas were removed by lateral openings and the 6-cm one using a morcellator. Haemostasis was checked and the drain left in the Douglas' pouch. The procedure lasted 2h and 50 min. The patient received antibiotic prophylaxis during surgery. The postoperative period was uneventful. The catheter was removed on the day of surgery and the drain in the Douglas' pouch within the first 24 hours. The patient resumed ambulation within 24 hours following the procedure, her general condition was satisfactory. The patient came again to the Department on December 15th, 1999, due to amenorrhoea. The pregnancy test was positive; the gynecological examination showed the enlarged, soft uterine body, of about 5 weeks' size, normal appendages. The pregnancy developed properly and the patient was constantly followed up. At 27<sup>th</sup> week of pregnancy, the periodic contractions of the uterine muscles occurred and oral Fenoterol was administered. During pregnancy the patient was subjected to two courses of i.v. Celestone was administered for 2 days. Since the contractions became stronger the patient was hospitalized from the 33<sup>rd</sup> week for 2 weeks. She was tocolysed: Fenoterol in an infusion pump. At 38 weeks regular contractions occurred. Due to myomectomy and long infertility treatment (>10 years), Caesarian section was

performed when the cervix was dilated for 2 cm and amniotic fluid preserved. After excising the old scar from the median incision, the Geppert-Fusch method was performed. The female infant weighing 3,360 g was delivered in good general condition – 10 Apgar points. On Caesarian section two myomas were enucleated – an intramural one, 2 cm in diameter from the anterior wall and a subserous one, 3 cm in diameter from the posterior wall. The sites were sewn with single sutures. The laparoscopic myomectomy scar was carefully checked and no muscle dehiscence was found. The uterine muscle was sewn with continuous sutures. The procedure was uneventful. The mother and her infant were discharged on the 6th postoperative day in good general condition.

## DISCUSSION

The treatment of infertility by laparoscopic myomectomy gives the patients a chance to conceive and carry to term. Seiner et al. (11) reported 65 pregnancies among 182 operated patients and in 91% of these women their pregnancies were the full-term ones. 80% of pregnant women underwent Caesarian sections. Only in one case adhesions in the myomectomy region were found. No spontaneous rupture of the uterine muscle following laparoscopic myomectomy was observed. Another author (7) reported 40 pregnancies among 115 operated patients. Ten patients miscarried, Caesarian section was performed in 22, no cases of spontaneous rupture of the uterus were found. The average time of conception from the operation was 43 months (9–99 months). There is a strict correlation between the presence of myomas and failures in *in vitro* fertilization. Stovall et al. (12) compared two groups of patients chosen for IVF: one with and one without uterine myomas. They noted statistically significantly higher number of pregnancies and deliveries in the group without myomas. In the case of the patient with 5 myomas of various location and size (the biggest one – 6 cm) described above *in vitro* fertilization performed twice failed. However, after the removal of all lesions the woman conceived spontaneously within 2 months. The pregnancies following myomectomy are highly risky and in the majority of cases, including the one presented above, are terminated with Caesarian section. The literature describes single cases of spontaneous rupture of the uterus in the scar area following laparoscopic myomectomy (1, 5, 8). Dubuisson et al. (2) report that among 100 pregnancies following laparoscopy only one developed spontaneous rupture of the uterus. This rupture occurred at 32 weeks, the patient was previously operated on for the intramural myoma, 30 mm in diameter. Paleosi et al. (8) describe a similar case of rupture of the uterus at 33 weeks in the patient subjected to laparoscopic removal of the subserous myoma, 50 mm in diameter. Laparoscopic myomectomy is an operative procedure which enables the patients treated for infertility to conceive. Similarly to other operations, the procedure involves a risk of complications and failures. Ruptures of the uterine muscle during pregnancy and delivery are extremely rare. Therefore, it seems

that this method should be recommended as the way of myoma treatment in infertile patients.

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## SUMMARY

The presence of myomas in the uterus is a relevant factor in infertility cases. Myomas may reduce contractility of the uterus, hinder migration of sperm and vascular changes within myomas themselves interfere with embryo implantation. The paper presents the case of a patient with over 10-year-history of infertility treatment diagnosed with numerous myomas of the uterus. The medical records revealed that the patient had undergone laparoscopy and laparotomy due to the left ovarian cyst and had been subjected to hysteroscopic removal of the uterine partition twice. The patient took part in the IVF programme twice – without success. At our Department the patient underwent laparoscopic myomectomy during which 5 myomas were removed: 4 subserous ones, 1.5-2 cm in diameter and an intramural one, 6 cm in diameter. The sites of the biggest myoma were laparoscopically sewn putting in 3 single sutures. In her next cycle the patient spontaneously conceived. The pregnancy was without serious complications and at 38 weeks was terminated by Caesarian section. The infant was delivered in good general condition (10 Apgar points) and weighted 3,360 g. On Caesarian section no uterine dehiscence following laparoscopic myomectomy was observed.

Przywrócenie płodności drogą laparoskopowego usunięcia licznych mięśniaków macicy u pacjentki po 10-letnim leczeniu niepłodności. Opis przypadku klinicznego

Występowanie mięśniaków w obrębie macicy jest czynnikiem odgrywającym znaczącą rolę w przypadku niepłodności. Mięśniaki mogą redukować kurczliwość macicy, utrudniać migrację plemników, a zmiany naczyniowe w obrębie samych mięśniaków zaburzają implantację zarodka. W pracy opisano przypadek pacjentki z ponad 10-letnim wywiadem w kierunku leczenia niepłodności, u której stwierdzono liczne mięśniaki macicy. Na podstawie dokumentacji stwierdzono, że pacjentka miała wykonaną laparoskopię i laparotomię z powodu torbieni jajnika lewego, dwukrotnie histeroskopowe usunięcie przegrody w jamie macicy. Pacjentka dwukrotnie uczestniczyła w programie IVF – bez rezultatów. Obecnie wykonano jej laparoskopową miomektomię, podczas której usunięto pięć mięśniaków: cztery mięśniaki podsurowicówkowe o śr. 1,5-2cm i jeden mięśniak śródścienny o śr. 6 cm. Łożę po największym mięśniaku zeszyto laparoskopowo, zakładając 3 szwy pojedyncze. Pacjentka w następnym cyklu zaszła samoistnie w ciążę. Ciąża przebiegała bez większych komplikacji, w 38 tyg. została rozwiązana drogą cięcia cesarskiego, noworodek był w stanie ogólnym dobrym (skala Apgar 10 pkt) wagi 3360 g. Nie stwierdzono rozejścia się blizny po laparoskopowej miomektomii w trakcie cięcia cesarskiego.