Pregnancy outcome in endometriosis patients using combined approach of laparoscopy, GnRH treatment and IVF

Deniss Sõritsa[1,2,4], Andrei Sõritsa[2], Triin Laisk-Podar[3,4], Merli Saare[3,4], Andres Salumets[3,4]

[1]Tartu University Hospital's Women's Clinic; Tartu, Estonia, [2]Elite Clinic; Tartu, Estonia, [3]Women's Clinic of Tartu University; Tartu, Estonia and [4]Competence Centre on Reproductive Medicine and Biology; Tartu, Estonia

Background and aims

The objective of the study was to evaluate the effect of laparoscopy with/without GnRH treatment on spontaneous and IVF pregnancies of patients with different stages of endometriosis.

Methods

The retrospective study was conducted among 185 endometriosis-associated infertility patients during the years 2005 to 2008. Patients were divided into groups according to disease severity by ASRM criteria as follows: Group 1 (stage I-II) 119 and Group 2 (stage III-IV) 66 patients.

Results

1. Age, fertility and menstrual cycle features did not differ between study groups. BMI was statistically smaller in Group 2 (p=0.04) (Table 1).

2. Previously diagnosed endometriosis and adhesions were observed more often in Group 2. The permeability of fallopian tubes and presence of myomas was similar in both groups (Table 2).

3. Forty six (55.4%) patients of Group 1 and 30 (58.8%) of Group 2, who underwent combined treatment of laparoscopy, GnRH and IVF, conceived during the first two attempts of IVF, however there were no significant differences between study groups (Table 3).

4. One hundred fifteen patients became pregnant (62.2%), 30 conceived spontaneously and 85 underwent IVF. Although patients with minimal-mild endometriosis conceived more spontaneously and with moderate-severe endometriosis conceived more after IVF, there were no overall differences in pregnancy rates between Group 1 and Group 2 (Table 4).

5. The general pregnancy rate of study groups was 62.2% (62.2% in Group 1 and 62.1% in Group 2) (Table 4).

6. There were no significant differences in miscarriage and delivery rates between study groups (Table 4).

Conclusions

There were no differences in pregnancy outcomes in women with different stages of endometriosis with more than 60% of patients conceived and more than 50% delivered during the study period.

Table 1. General characteristics

Characteristic	Group 1 I-II stage of endometriosis n=119 n (%)	Group 2 III-IV stage of endometriosis n=66 n (%)	p-value Group 1 vs. Group 2
Average age (years)	33.3±4.4	33.0±4.6	NS
Body mass index (kg/m^2)	22.3±2.8	21.4±2.4	0.04[a]
Regular menstruation	104 (87.4)	61 (92.4)	NS
Painful menstruation	30 (25.2)	25 (37.9)	0.09[b]
Primary infertility	39 (32.8)	29 (43.9)	NS
FSH value before treatment (IU/l)	8.7±7.1 n=81	7.9±5.1 n=48	NS
Duration of infertility (years)	6.0±3.3 n=108	6.4±3.6 n=62	NS

Where appropriate, values are given as mean ± standard deviation.
[a]t-test; [b]χ2 test; NS – statistically not significant (p>0.05)

Table 2. Previously diagnosed endometriosis and laparoscopic findings

Characteristic	Group 1 n (%)	Group 2 n (%)	p-value[a] Group 1 vs. Group 2
Previously laparoscopically diagnosed endometriosis	18 (15.1)	35 (53.0)	<0.001
Pelvioperitonitis (Chronical and adhesive)	53 (44.5)	40 (60.6)	0.05
Permeability of fallopian tubes (at least one)	69 (58.0)	39 (59.1)	NS
Myoma of uterus	22 (18.5)	7 (10.6)	NS

[a]χ2 test; NS – statistically not significant

Table 3. Results of combined treatment of laparoscopy, GnRH and IVF

Characteristic	Group 1	Group 2	p-value[a] Group 1 vs. Group 2
Patients underwent combined treatment (n)	83	51	-
Conceived during I-II IVF attempts n (%)	46 (55.4)	30 (58.8)	NS
Conceived during ≥III IVF attempts n (%)	5 (6.0)	4 (7.8)	NS
Negative result n (%)	32 (38.6)	17 (33.4)	NS

[a]χ2 test; NS – statistically not significant

Table 4. Pregnancy outcome

Characteristic	Group 1	Group 2	p-value[a] Group 1 vs. Group 2
Clinical pregnancies (n)	74	41	-
Total clinical pregnancy rate n (%)	74/119 (62.2)	41/66 (62.1)	NS
Spontaneously conceived n (%)	23 (31.1)	7 (17.1)	NS
Conceived through IVF n (%)	51 (68.9)	34 (82.9)	NS
Miscarriages n (%)	7/74 (9.5)	9/41 (22.0)	0.09
Deliveries n (%)	67/119 (56.3)	32/66 (48.5)	NS

[a]χ2 test; NS – statistically not significant