

## **ADENOMYOSIS: PREGNANCY OUTCOME AFTER PITUITARY DOWN-REGULATION AND ASSISTED REPRODUCTION IN ENDOMETRIOSIS PATIENTS**

Sõritsa Deniss<sup>1,2,3</sup>, Saare Merli<sup>2,4</sup>, Laisk-Podar Triin<sup>2,4</sup>, Sõritsa Andrei<sup>3</sup>, Matt Kadri<sup>1,4</sup>, Karro Helle<sup>1,4</sup>, Salumets Andres<sup>2,4</sup>

<sup>1</sup>Tartu University Hospital's Women's Clinic, 51014 Tartu, Estonia;

<sup>2</sup>Competence Centre on Reproductive Medicine and Biology, 50410 Tartu, Estonia;

<sup>3</sup>Elite Clinic, 50407 Tartu, Estonia;

<sup>4</sup>Department of Obstetrics and Gynecology, University of Tartu, 51014 Tartu, Estonia.

Adenomyosis is a benign, an estrogen-dependent gynaecological disease with unclear etiology, represented often in women with endometriosis-associated infertility. Several studies have shown the fertility enhancing effect of gonadotropin-releasing hormone agonist (GnRHa) treatment on pregnancy outcome in patients with adenomyosis. The objective of this study was to evaluate the efficacy of GnRHa therapy on the pregnancy outcome in endometriosis patients with and without adenomyosis.

This retrospective study was carried out on 177 women from Elite Clinic with surgically confirmed endometriosis (stage I-IV according to the American Society for Reproductive Medicine criteria) who underwent curative laparoscopy. Adenomyosis was diagnosed with transvaginal ultrasonography in 77 (43.5%) of patients. For statistical analysis patients were divided into three groups: Group I (without adenomyosis and w/o GnRHa treatment) n=41, Group II (without adenomyosis and with GnRHa treatment) n=59, and Group III (with adenomyosis and with GnRHa treatment) n=77 patients.

The age was statistically higher in patients with adenomyosis. The prevalence of painful menstruation and elevated CA-125 levels were statistically higher in patients with GnRHa therapy. The general pregnancy rate was 65.0% (24 patients in Group I, 40 in Group II and 51 in Group III) after natural and assisted conception. Eighty (76.9%) of conceived patients became pregnant within 12 months. Majority of patients (73.9%) conceived through IVF, while 26.1% patients conceived spontaneously. Out of 115 patients with a detected clinical pregnancy, 97 patients (84.3%) had a delivery.

No significant differences were found in pregnancy outcome between patients with/without adenomyosis and GnRHa therapy. Pregnancy, in this group of patients, is generally achieved within 12 months after laparoscopy and mostly through IVF.

Characteristic	Group I NO Adenomyosis NO GnRHa mean±SD or n(%)	Group II NO Adenomyosis YES GnRHa mean±SD or n(%)	Group III YES Adenomyosis YES GnRHa mean±SD or n(%)
No of patients	41	59	77
Minimal-mild endometriosis*	40(97.6)	37(62.7)	41(53.2)
Moderate-severe endometriosis*	1(2.4)	22(37.3)	36(46.8)
Average age (years)	32.6±3.8	31.6±4.6 <sup>a</sup>	34.2±4.3 <sup>a</sup>
Body mass index (kg/m <sup>2</sup> )	22.8±3.3	21.9±2.6	21.9±2.9
Painful menstruation	3(7.3) <sup>b,c</sup>	19(32.2) <sup>b</sup>	32(41.6) <sup>c</sup>
Primary infertility	13(31.7)	27(45.8)	25(32.5)
Duration of infertility (years)	6.6±3.9 n=37	5.5±3.1 n=55	6.4±3.4 n=72
Elevated Ca 125 (reference 1.9-16.3 kU/L)	0(0) <sup>c,d</sup> n=28	13(33.3) <sup>c</sup> n=39	26(38.2) <sup>d</sup> n=68
Previously laparoscopically diagnosed endometriosis	3(7.3) <sup>a,e</sup>	22(37.3) <sup>a</sup>	25(32.5) <sup>e</sup>
Chronic and adhesive pelveoperitonitis	19(46.3)	26(44.1)	41(53.2)
At least one fallopian tube permeable	29(70.7)	50(84.7)	57(74.0)
Myoma of uterus	4(9.8)	6(10.2)	18(23.4)

\*according to the *American Society for Reproductive Medicine (ASRM)* criteria  
Groups with common superscript are different; <sup>a</sup>  $p=0.001$ ; <sup>b</sup>  $p=0.003$ ; <sup>c</sup>  $p<0.001$ ; <sup>d</sup>  $p<0.001$ ;  
<sup>e</sup>  $p=0.002$ ;

Characteristic	Group I NO Adenomyosis NO GnRHa n=42 mean±SD or n(%)	Group II NO Adenomyosis YES GnRHa n=59 mean±SD or n(%)	Group III YES Adenomyosis YES GnRHa n=84 mean±SD or n(%)
No of patients	41	59	77
Patients with IVF/FET treatment per all patients	29(70.7)	41(69.5)	60(77.9)
IVF/FET pregnancies per IVF patients	18(62.1)	28(68.3)	39(65.0)
Conceived during I-II IVF attempt per all IVF/FET pregnancies	16(88.9)	25(89.3)	36(94.7) n=38
Spontaneous pregnancies per all patients	6(14.6)	12(20.3)	12(15.6)
Time to conceiving after laparoscopy (months)	7.5±7.0 n=20	9.3±7.2 n=36	8.9±5.6 n=48
Pregnancy during 12 months after laparoscopy	15(75.0) n=20	27(75.0) n=36	38(79.2) n=48
Total pregnancy rate per all patients	24(58.5)	40(67.8)	51(66.2)
Total miscarriage rate per all pregnancies	3(12.5)	5(12.5)	10(19.6)
Total delivery rate per all patients	21(51.2)	35(59.3)	41(53.2)