«Modern Management of Adenomyosis»

prof. Krasnopol'skaya K.
Adenomyosis or uterine endometriosis is a penetration of glands and stromal components of basal endometrial layer into myometrium to different depths (in most severe cases – through perimetrium) with a chronic inflammation development.

(Bird et al, 1972)

Uterine endometriosis should be considered as separate disease termed ‘adenomyosis’ but not ‘endometriosis’.

(Haney A. F., 1991)
Etiology and Epidemiology

The etiology of adenomyosis has not been established till now!

The true incidence of adenomyosis in the population and among the patients with infertility is unknown.

According to histology after hysterectomy
10% (Cocuzzi et al 2011)
28.2% (Parazzini et al 2010)
Symptoms of adenomyosis

- **Pain syndrome**
  - (algomenorrhea
  - Hyperpolymenorrhea, resulting in anemisation)

- Miscarriage

- Infertility

Treatment approach depends on the patient’s priorities!
Adenomyosis and pain syndrome

**Patient has children**
(is not interested in pregnancy)

- Surgical treatment
- Hormonal treatment

**Patient doesn’t have children**
(has reproductive planes)

- Focus on pregnancy!!!
- Hormonal treatment
Adenomyosis and fertility

Treatment approach and prognosis depend on stage of adenomyosis

Transvaginal ultrasound is sufficient to identify the disease stage
Mild adenomyosis
(is often overdiagnosed!!!)

Infertility associated with mild adenomyosis should be treated like unexplained or tubal infertility

In IVF program it is possible to use both protocols (with α-GnRH and α-ant-GnRH)
Moderate and severe adenomyosis and infertility

Hormonal therapy

IVF

Surgical treatment
Our Data
(Moscow Regional Research Institute of Obstetrics and Gynecology 2010-2015)

128 women passed through IVF Program

<table>
<thead>
<tr>
<th>Analyzed data</th>
<th>Disease experience more than 3 years</th>
<th>Hormonal therapy in the past</th>
<th>Age over 36 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>74%</td>
<td>92%</td>
<td>77%</td>
<td></td>
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</tbody>
</table>
## IVF Efficiency in patients with adenomyosis

<table>
<thead>
<tr>
<th>Adenomyosis’ effect on IVF efficiency</th>
<th>Stimulation Protocol</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenomyosis <em>doesn’t affect</em> pregnancy rate</td>
<td>Standard long protocol with GnRH agonists</td>
<td>Costello et al, 2011</td>
</tr>
<tr>
<td></td>
<td>Super long protocol with GnRH agonists (3-6 months of down-regulation)</td>
<td>Mijatovic et al, 2010</td>
</tr>
<tr>
<td>Adenomyosis <em>decreases</em> pregnancy rate</td>
<td>Mild protocol with GnRH antagonists</td>
<td>Thalluri et al., 2012:</td>
</tr>
<tr>
<td></td>
<td>pregnancy rate at women with adenomyosis – 23,6%; pregnancy rate at women with tubal infertility – 44,6%.</td>
<td></td>
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</tbody>
</table>
Severe adenomyosis

Implantation rate and “take home babe” rate are significantly decreased
There is no reliable investigations about correlation between pregnancy rate and adenomyosis stage

Adenomyosis stage + Age + Ovarian reserve = Pregnancy rate
### IVF Results and Adenomyosis stage (our data)

\((n=128)\)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Mild ((n=54))</th>
<th>Moderate ((n=47))</th>
<th>Severe ((n=27))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical pregnancy rate (at embryo transfer)</td>
<td>35.2% (19 women)</td>
<td>21.3% (10 women)</td>
<td>11% (3 women)</td>
</tr>
<tr>
<td>Pregnancy loss</td>
<td>15.8% (3 of 19)</td>
<td>40% (4 of 10)</td>
<td>67% (2 of 3)</td>
</tr>
</tbody>
</table>

Moscow Regional Research Institute of Obstetrics and Gynecology, 2010-2015
Reproductive losses

<table>
<thead>
<tr>
<th>Adenomyosis</th>
<th>Adenomyosis + Leiomyoma</th>
<th>Leiomyoma</th>
<th>Without pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>58.8%</td>
<td>47.4%</td>
<td>20.5%</td>
<td>22.2%</td>
</tr>
</tbody>
</table>

Levgur M., Abadi MA., Tucker A. 2006
# Adenomyosis and embryogenesis

<table>
<thead>
<tr>
<th></th>
<th>Stage I</th>
<th>Stage II</th>
<th>Stage III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of follicles</td>
<td>11,3±3,5</td>
<td>12,4±4,5</td>
<td>11,1±3,7</td>
</tr>
<tr>
<td>Number of MII oocytes</td>
<td>7,9±3,8</td>
<td>8,2±4,0</td>
<td>7,5±3,9</td>
</tr>
<tr>
<td>Fertilization rate%</td>
<td>92,9±3,3</td>
<td>93,6±4,2</td>
<td>91,2±4,6</td>
</tr>
<tr>
<td>Good quality embryos at day-3, %</td>
<td>73,8±15,8</td>
<td>69,9±18,3</td>
<td>73,1±17,7</td>
</tr>
</tbody>
</table>
Adenomyosis and embryogenesis

Severity of diffuse adenomyosis doesn’t affect folliculogenesis and embryogenesis

However, the number of embryos to transfer remains unclear
Number of embryos to transfer depends on the adenomyosis stage and endometrium state

<table>
<thead>
<tr>
<th>Stage</th>
<th>Number of Embryos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>2 embryos</td>
</tr>
<tr>
<td>Moderate</td>
<td>Agreed individually (2-3 embryos)</td>
</tr>
<tr>
<td>Severe</td>
<td>3 or surrogacy</td>
</tr>
</tbody>
</table>
Conclusion

It is reasonable to start IVF without prior hormonal therapy

In case of severe adenomyosis the use of a surrogate mother will be the best solution

In patients with adenomyosis pregnancy is associated with higher risks
The only definitive treatment for adenomyosis is hysterectomy

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