ADOPt: A New Surgical Staging for Endometriosis – Associated Infertility. Can we adopt it? – A Pilot Study
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Abstract

Background: Assessment of the severity of endometriosis has been inadequate. The current standard classification, the ASRM classification has many drawbacks that limits its practical use.

Objective: To evaluate a new surgical classification system for endometriosis-associated infertility.

Design: Pilot Cohort study

Setting: University Hospital

Patients: 40 infertile patients aged 20-35 years with laparoscopically diagnosed endometriosis were evaluated using our new classification and ASRM classification.

Main Outcome: Assessment of the descriptive potential of the new surgical classification and the relationship of the outcome (clinical pregnancy) in comparison with the ASRM classification.

Results: ADOPt was found to be more descriptive and more predictive of the outcome than ASRM classification. According to ASRM classification (8, 3, 12, 17) cases were stages (I, II, III, IV) of which (75%, 33%, 58%, 52.9 %) achieved clinical pregnancy respectively while according to our new classification, (7,4,2,9) cases were stages (I,II,III, of which 85.7%, 85%, 65%, 15%) achieved clinical pregnancy respectively.

Conclusions: ADOPt classification is a simple practical surgical tool designed to assist laparoscopic surgeons in the assessment of endometriosis-associated infertility. It respects the pathological evolution of the disease, and obviates the drawbacks of ASRM classification.

Materials & Methods (cont.)

Background

Endometriosis continues to be an enigmatic disease with adverse impact on fertility. Assessment of the severity of endometriosis in cases with infertility has been inadequate. Numerous classifications have been proposed. A revised ASRM classification has been proposed based on the surgical findings of 469 patients [1]. Although trends were apparent, it has not proven to be a sensitive predictor of pregnancy following treatment, besides many other drawbacks limiting its practical use. Thus, efforts must continue to develop a useful method to stage this disease.

Table 1: Description of ADOPt Staging System for Endometriosis Associated Infertility

<table>
<thead>
<tr>
<th>Adnexal</th>
<th>Ovary</th>
<th>Peritoneum</th>
<th>Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>No adnexal adhesions or adhesions elsewhere (AE)</td>
<td>No peritenvial endometriotic lesions</td>
<td>Healthy tube &amp; patent</td>
<td>Unhealthy tube &amp; patent (immediate spill)</td>
</tr>
<tr>
<td>Ovary</td>
<td>Chocolate cyst ≤ 4 cm</td>
<td>Tubal blockage</td>
<td>Unhealthy tube &amp; patent (delayed spill)</td>
</tr>
<tr>
<td>1v</td>
<td>Chocolate cyst &gt; 4 cm</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2: Stages of Endometriosis According to ADOPt Classification

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>P0/1</th>
<th>A/D</th>
<th>O2,3</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Adhesions involving ovaries only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIa</td>
<td>Adhesions involving both ovaries and tubes or uterine cavity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIb</td>
<td>Adhesions involving multiple ovaries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIIa</td>
<td>Unilateral endometriotic ovarian cyst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIIb</td>
<td>Bilateral endometriotic ovarian cyst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IVa</td>
<td>Unilateral tubal block</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IVb</td>
<td>Bilateral tubal block</td>
<td></td>
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</tr>
</tbody>
</table>

Figure 1: ADOPt reporting form

Figure 2: The percentage of blocked tubal was almost the same when cases using minimal & mild endometriosis were compared to those with moderate and severe endometriosis using the rASRM classification.

Figure 3: Relation between extent of adnexal adhesions and tubal block. The percentage of tubal block was found to increase proportionally with the increased extent of adnexal adhesions using ADOPt classification.

Figure 4: Reproductive outcome (clinical pregnancy) according to rASRM and ADOPt classifications.

Discussion

We provided our new staging system from the TNM staging system (Tumor, Node, Metastasis) used for the assessment of the prognostic of malignancy by evaluating 3 parameters, the size and extension of the primary tumor, its lymphatic involvement and the presence of metastasis [2]. Despite being a benign disease, endometriosis has the characteristics of a malignancy; that is, it is progressive, locally infiltrative, invasive and widely disseminating disease.

ADOPt classification evaluates 5 parameters pertinent to the assessment of fertility potential in patients with endometriosis. Unlike rASRM classification it is used only for the assessment of endometriosis-associated infertility. In this regard, it is of great importance.

It has the following advantages compared to rASRM classification:

- Simple and practical: It avoids the arbitrary weighing of endometriotic lesions used in rASRM classification. By simplicity helps categorize patients quickly to different stages for assessment of fertility, subsequent fertility management and formulate a fertility prognosis.

- More descriptive: It describes bowel involvement in adnexal adhesions.

- More objective: It facilitates early diagnosis of the disease.

- More predictive of the fertility outcome: The outcome beheld similar to the stage according to ADOPt rather than according to rASRM.

- More predictive of the disease progression: Stage I featured by peritoneal lesions represents the earliest stage of the disease with the worst prognosis while tubal blockage is considered the hallmark of stage 4 which is associated with the least chance of natural conception.

- Probably more reproducible: due to more objective description of various stages of the disease. Yet, this needs to be proved in a clinical study.

Conclusion

ADOPt classification is a simple, practical, descriptive and prognostic surgical tool for assessment of endometriosis associated infertility that avoids problems encountered with other classification systems. We would endorse its adoption in research to further validate it on a larger number of patients and evaluate its reproducibility.

References