Title: EMPIRIC TREATMENT OF LOW LEVEL LEUKOCYTOSPERMIA

Objective: Leukocytospermia has traditionally been defined by the World Health Organization as greater than 1 million (M) leukocytes per milliliter (ml) of seminal fluid. However, there is growing evidence that even much lower levels of leukocytospermia are associated with elevated levels of oxidative stress, and a significant decrease in sperm motility and DNA integrity. This initial report describes the outcomes of empirc antibiotic therapy for patients with leukocytospermia at levels between 0.2 and 1 M/ml.

Design: A retrospective review of records

Materials and Methods: Records of patients receiving infertility evaluation from Sept. 2006 to Feb. 2008 were reviewed. Out of
223 patients evaluated for leukocytospermia, 34 had seminal leukocyte levels between 0.2 and 1.0 M/ml as identified by the Endtz test and received empiric short-course antibiotic therapy. The control group (n=27) was obtained by reviewing consecutive charts for a period immediately preceding the practice of routine treatment of low level leukocytospermia. A paired t test was used for comparisons between groups. Pregnancy data was obtained from record review and telephone interview. Its association with semen parameters was evaluated using logistic regression analysis. Pregnancies resulting from in- vitro fertilization were excluded from this analysis. Associations are expressed as Odds Ratio (OR) and 95% Confidence Interval (95%CI).

Results: There were no differences in pre-treatment semen parameters between treated and untreated patients. Neither were there significant differences in semen parameters in treated patients before and after treatment.

Table 1: Semen parameters between treated patients before and after empiric antibiotic therapy.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Pre-Tx</th>
<th>Post-Tx</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume (ml)</td>
<td>3.0 (1.4)</td>
<td>2.6 (1.2)</td>
<td>0.7</td>
</tr>
<tr>
<td>Concentration (M/ml)</td>
<td>48.0 (57.2)</td>
<td>55.5 (68.5)</td>
<td>0.8</td>
</tr>
<tr>
<td>Motility (%)</td>
<td>49.0 (23.2)</td>
<td>51.0 (21.0)</td>
<td>0.6</td>
</tr>
<tr>
<td>TMC (M)</td>
<td>75.6 (116.1)</td>
<td>86.6 (148.6)</td>
<td>0.6</td>
</tr>
<tr>
<td>Kruger (% NL)</td>
<td>4.2 (4.4)</td>
<td>2.4 (2.3)</td>
<td>0.1</td>
</tr>
<tr>
<td>WHO (% NL)</td>
<td>18.1 (9.9)</td>
<td>15.5 (10.5)</td>
<td>0.2</td>
</tr>
<tr>
<td>Endtz (M/ml)</td>
<td>0.5 (0.2)</td>
<td>0.4 (0.6)</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Numbers expressed as Mean (SD)

The pregnancy rate among controls was 20% (5/25) and for treated patients was 44% (15/34). Treatment was associated with pregnancy with an OR of 3.2, (95%CI 1−10.4) p=0.05.

Conclusions: Treatment of low level leukocytospermia appears to improve pregnancy outcomes in ways not captured by routine semen parameters. Studies with larger numbers of patients are needed to confirm these findings.

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