Title: UTILITY OF SEMINAL OXIDATIVE STRESS (OS) PROFILE AND NEW OS SCORES IN THE CLINICAL DIAGNOSIS OF MALE INFERTILITY

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Objective: Three commonly used markers to measure OS are: reactive oxygen species (ROS), total antioxidant capacity (TAC) and DNA damage. There is an increased interest amongst the clinicians about the utility of these tests in evaluating the underlying cause of male infertility. The objective was to develop a new OS score to evaluate if the reporting of these OS markers in combination can serve as a valuable diagnostic tool for the clinician.

Design: Prospective clinical study.

Materials and Methods: Semen samples were collected from 114 infertile men and 14 healthy controls. ROS was measured by chemiluminescence, seminal plasma TAC colorimetrically and DNA fragmentation by TUNEL. The new scores were developed using logistic regression analysis.

Results: Newly developed oxidative stress scores in infertile patients and healthy donors are shown in the table below.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Healthy Donors (n = 14)</th>
<th>Infertile Patient (n = 114)</th>
<th>P-value</th>
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Conclusions: Ordering a seminal OS profile consisting of ROS, TAC and DNA damage markers is important in the simple calculation of new OS scores. These scores can differentiate healthy men from those who are infertile. Patients with decreased OS scores (with high OS) are more likely to benefit from antioxidant treatment.

Support: None.

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