

# Abstract

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## **Sperm quality improvement after natural anti-oxidant treatment of asthenoteratospermic men with leukocytospermia.**

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**AIM:** To study the immune-modulating and anti-oxidant effects of beta-glucan, papaya, lactoferrin, and vitamins C and E on sperm characteristics of patients with asthenoteratozoospermia associated with leucocytosis.

**METHODS:** Fifty-one patients referred to our Sterility Center for semen analysis were selected. Sperm parameters were assessed before and after patient's treatment with beta-glucan, lactoferrin, papaya, and vitamins C and E. DNA damage was assessed by the acridine orange test and sperm structural characteristics were evaluated by transmission electron microscopy.

**RESULTS:** After 90 days of treatment, an increase in the percentage of morphologically normal sperm (17.0 +/- 5.2 vs. 29.8 +/- 6.5) and total progressive motility (19.0 +/- 7.8 vs. 34.8 +/- 6.8) were detected. Structural sperm characteristics as well as chromatin integrity were also improved after treatment. In terms of leukocyte concentration in seminal fluid, a significant reduction was recorded (2.2 +/- 0.9 vs. 0.9 +/- 0.2).

**CONCLUSION:** The treatment of an inflammatory process by the synergic action of immune modulators and anti-oxidants could protect sperm during maturation and migration, leading to improved sperm function.

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