Research Article

Asthenozoospermia and Fertility

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Abstract
Background: Asthenozoospermia is a condition associated with low or absence sperm motility in fresh ejaculate. Absolute asthenozoospermia, i.e. 100% immotile sperm, is reported in 1of 5000 men. Many factors may cause impairment of sperm motility (asthenozoospermia) leading to infertility
Objectives: The aim of the present study is to define effect of low sperm motility on fertility. **Methods:** The study was conducted on 20 males with age ranging from 20 to 50 years. Semen analysis was done in all patients. They were divided into two groups: Group I (control): 5 fertile persons with normal motility. Group II: patients with asthenozoospermia. **Results:** There was a statistically significant decrease of mean fertility rate in patients with low total sperm motility. **Conclusion:** asthenozoospermia is amajor cause of infertility.
Keywords: Asthenozoospermia, Fertility.

Introduction
Asthenozoospermia is a condition associated with low or absence sperm motility in fresh ejaculate. Absolute asthenozoospermia, i.e. 100% immotile sperm, is reported in 1of 5000 men (Eliasson et al., 1977).

During natural sperm maturation, motility is acquired during epididymal transit. Sperm motility is important for migration from the vagina to the Fallopian tubes, for penetration of the cumulus oophorus and for processes involved in fertilization. Therefore, there is a clear association between sperm motility and the chance for natural conception (Bacetti et al, 2001).

Andrologist is confronted with male genital infection as a common occurrence in subfertile men (WHO, 1997). This is related to possible direct effects of male genital infection on fertilizing capacity of the sperm, but is probably also due to effects of male genital tract infection on female partener (Eggert-kruse et al., 1997).

Ultrastructure abnormalities of the sperm tails are most important cause of absolute asthenozoospermia they result from defect in spermiogenesis (Zamboni, 1987; Baccetti et al., 1993) with viable but immotile spermatozoa present in the ejaculate. Many ultrastructure defects may have a genetic origin (Afzelius, 1981).

The integrity of all sperm specialized structures are detectable by ultrastructural analysis with transmission electron microscope (TEM) which remains the gold standard for their evaluation (Zamboni, 1987). TEM is the best methods for studying defects of different sperm components that influence fertilizing potential (Chemes and Rawe, 2003).

Transmission electron microscopy (TEM) is a powerful and unique technique for structure characterization. TEM is demonstrated for characterizing and measuring the thermo-dynamic, electric, and mechanical properties of individual nanostructures and organelles (Wang, 2000).

The aim of the present study is to evaluate patients with severe asthenozoospermia and its contribution for infertility.

Subjects and Methods
The present work had been conducted on 20 male attending to Andrology Outpatient Clinic of Dermatology, STDs and Andrology Department of Minia University Hospital. The study was performed in the period from November 2018 till August 2019. Written consents were signed by all persons before enrollment into the study and the method of examination was explained to all patients. The study was approved by ethical committee for

Postgraduate Studies and Research of Faculty of Medicine, Minia University.

The age of subjects included ranged from 20 to 50 years old. All groups were subjected to; complete history taking, general and local examination, semen sample collection and preparation. Semen sample were collected by masturbation into sterile plastic jars, after 3-5 days of sexual abstinence. They were allowed to liquefy for 20-40 min at incubators ($37^{O}C$) and were then evaluated according to WHO guide lines (WHO, 2010). The liquefied semen samples were evaluated for: total sperm count ($x10^{6}$), motility (%): total motility and progressive motility and morphology (%).

They were divided after examination and seminal analysis into 2 groups: Group I (control): 5 fertile persons with normal Group II: patients with low motility.

Statistical analysis

Data were statistically analyzed using SPSS program for windows, version 24. The statistical difference between groups was expressed in *p* value which was considered significant when it was < 0.05.

Results

The control group represents 31.25% of cases, while patients with asthenozoospermia represent 68.75 of cases. The study includes 20 patients, whose age ranges between 20-45 years with a mean of 28.4 ± 5.3 years.

There was a statistically significant difference of fertility rates between patients of low sperm motility and controls.

Discussion

Athenozoospermia considered a major cause of male infertility (Paduch and Niedzielski, 1997). This study showed that sperm motility is significantly lower in men complaining from infertility.

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