

*Research Article***The Quality of Semen in Varicocele patients****Tarek S.E, Hasan M.H, Rasha T.A, Almostafa M.A**

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Abstract

Background: Varicocele is considered a major cause of male infertility with a prevalence rate of about 15% in healthy men and 40% in men being treated in infertility clinics. Semen analysis remains the single most useful and basic investigation for diagnosing male infertility.

Objectives: The aim of the present study is to define effect of varicocele on semen parameters. **Methods:** The study was conducted on 80 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): 25 fertile persons with no varicocele. Group II: patients with varicocele. **Results:** There was a statistically significant increase of mean total sperm count, total sperm motility (%), progressive motility (%) and normal morphology (%) of control group in comparison to group II. **Conclusion:** varicocele causes alternation of spermatogenesis with subsequent decrease of seminal parameter (count, motility, normal morphology).

Keywords: Varicocele, Semen analysis.

Introduction

A varicocele is an abnormal dilatation, tortuosity and engorging of draining veins of testis with blood due to impaired venous efflux from the testis due to the absence or malfunction of valves (Tulloch, 1951).

Varicocele is associated with macroscopic and microscopic testicular alterations. These changes are observed bilaterally even in the presence of unilateral clinical varicocele (Dubin and Hotchkiss, 1969). Grossly, there is decreasing in testicular size. The hypothesis that varicocele can cause testicular damage was further confirmed on pubertal boys in which the reduction in testicular size ipsilateral to the pathology was restored after surgical repair (Jarow, 2001).

Semen analysis remains the single most useful and basic investigation for diagnosing male infertility. It is a simple test, providing not only on sperm production (count), but sperm quality (motility, morphology) as well (Fisch, 2008).

The aim of the present study is to evaluate effect of varicocele on semen parameters.

Subjects and Methods

The present work had been conducted on 80 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 2016 till August 2017. 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°C) and were then evaluated according to WHO guide lines (WHO, 2010). The liquefied semen samples were evaluated for: total sperm count ($\times 10^6$), motility (%): total motility and progressive motility and morphology (%).

They were divided after examination and seminal analysis into 2 groups: Group I (control): 25 fertile persons with no varicocele. Group II: patients with varicocele.

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 varicocele represent 68.75 of cases. The study includes 80 students, whose age ranges between 20-45 years with a mean of 28.4 ± 5.3 years.

There was a statistically significant difference of mean total sperm count, total sperm motility (%), progressive motility (%), normal morphology (%) between two groups of the study with *p value* < 0.001 , < 0.001 , < 0.001 respectively.

Discussion

Varicocele considered a major cause of male infertility (Paduch and Niedzielski, 1997). It is the most common curable cause of male infertility, which is found in approximately 15% of the male population and in up to 35% of men with primary infertility and 81% of men with secondary infertility (Zhang et al., 2017).

This study showed that sperm count, motility and normal morphology was significantly lower in varicocele patients in comparison to normal individual. This result agreed with a large-scale study of 7035 healthy young men from general European populations, demonstrated that the presence of varicocele was associated with poorer semen quality (Damsgaard et al., 2016).

Summary and Conclusion

Varicocele is an abnormal dilatation, tortuosity and engorging of draining veins of testis with blood. It considered a major cause of male infertility. It is associated

with macroscopic and microscopic testicular alterations. This alternation is reflected on semen in the form of decreasing count, motility and percentage of normal morphology as it is shown on this study.

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