The Potential Link Between Varicocele and Infertility Using Ultrasound Among Saudi Men

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Introduction

Infertility is the inability of a couple to conceive a child following a 12 month of sexual unprotected intercourse. An international estimate of nearly 70 million of couples are suffering from infertility with the most of them living in developing countries[2]. Numerous factors have been attributed to cause infertility, including varicocele that is referred to an abnormal swollen and twisted spermatic veins of testes[3]. Although the incidence of varicocele is high among infertile men, the relationship between infertility and varicocele has not been fully understood [1].

Objectives

The aim of this thesis is to explore the relationship of varicocele with infertility as well as semen count among Saudi men population.

Materials and Methods

This case-control study was carried out retrospectively in Saudi Arabia, Jeddah, King Abdulaziz university hospital between September 2021 and June 2022.

The study evaluated the potential relationship between infertility and varicocele among Saudi men. Participants who are less than 20 years old were excluded.

The study included 31 fertile (control group) and 38 infertile men (cases).

All Saudi male patients with scrotal ultrasound examinations were included in this study. SPSS statistical software package (version 25) was utilized to test the relationship between the status of fertility and varicocele.

Results

Infertile men were more likely to be diagnosed with varicocele (p. value: 0.005) and had abnormal semen count (p. value: < 0.001).

Patients with varicocele were more likely to present with a mild degree of varicocele (p. value: 0.002).

No significant relationships were seen between fertility status and other variables including age, testicular size, and the side of varicocele (p. value >0.05).

Additionally, varicocele was more frequent among men with abnormal semen count (including both weak and azoospermia) (p. value: 0.009) (fig.1).

Also, its prevalence was high in both testes and left side (fig.2) .

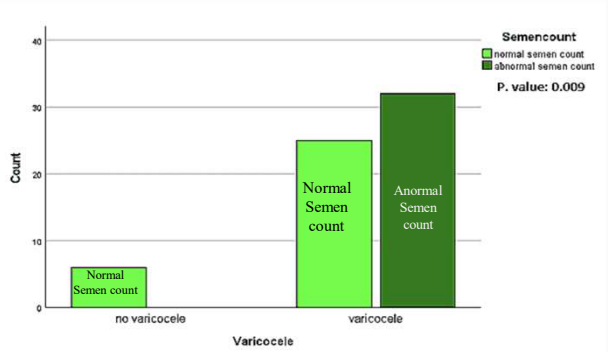

Figure 1: Distribution of varicocele by semen count

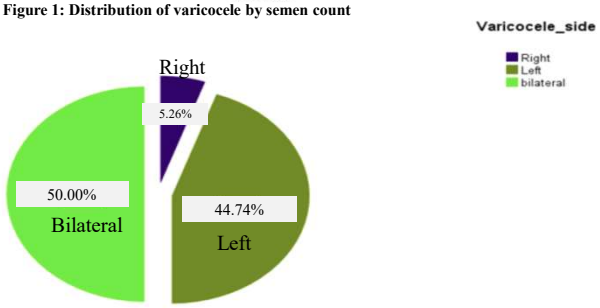

Figure.2: The frequency of varicocele by testes sides among infertile group

Table 1: Varicocele features and semen count among fertile and infertile groups

Population characteristics		Fertile n (%)	Infertile n (%)	P value
Presence of Varicocele	no	6 (100)	0 (0)	0.005
	yes	25 (39.7)	38 (60.3)	
Varicocele severity	Mild	10 (26.3)	28 (73.3)	0.002
	Moderate	9 (56.3)	7 (43.8)	
	Severe	6 (66.7)	3 (33.3)	
Semen count	Normal count	31 (100)	0 (0)	< 0.001
	weak or low	0 (0)	25 (100)	
	azo	0 (0)	7 (100)	

Conclusion and Recommendations

Although varicocele is significantly linked to infertility, this is not necessarily indicate a direct relationship between them, since variable factors such as genetics and molecular factors could confound this association. Therefore, further larger case-control studies with considering other infertility factors are needed to explore the causality link between varicose and infertility.

References

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