VARICOCELE AND MALE INFERTILITY

AN ESSAY

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BY

ADEL EIMAM

[MB.,B.Ch. - M.Sc.Derm & Ven.]

Supervised By

PROF.DR. NABIL AHMED ALLOUBA

Prof. Of General Surgery

FACULTY OF MEDICINE

AIN SHAMS UNIVERSITY

FACULTY OF MEDICINE

AIN SHAMS UNIVERSITY

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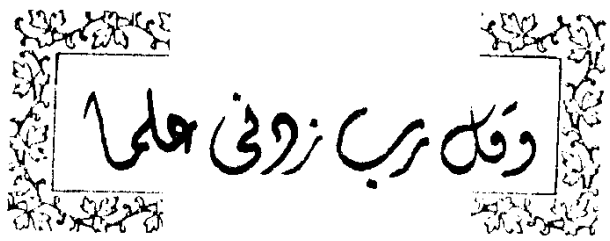
بسم الله الرحمن الرحيم



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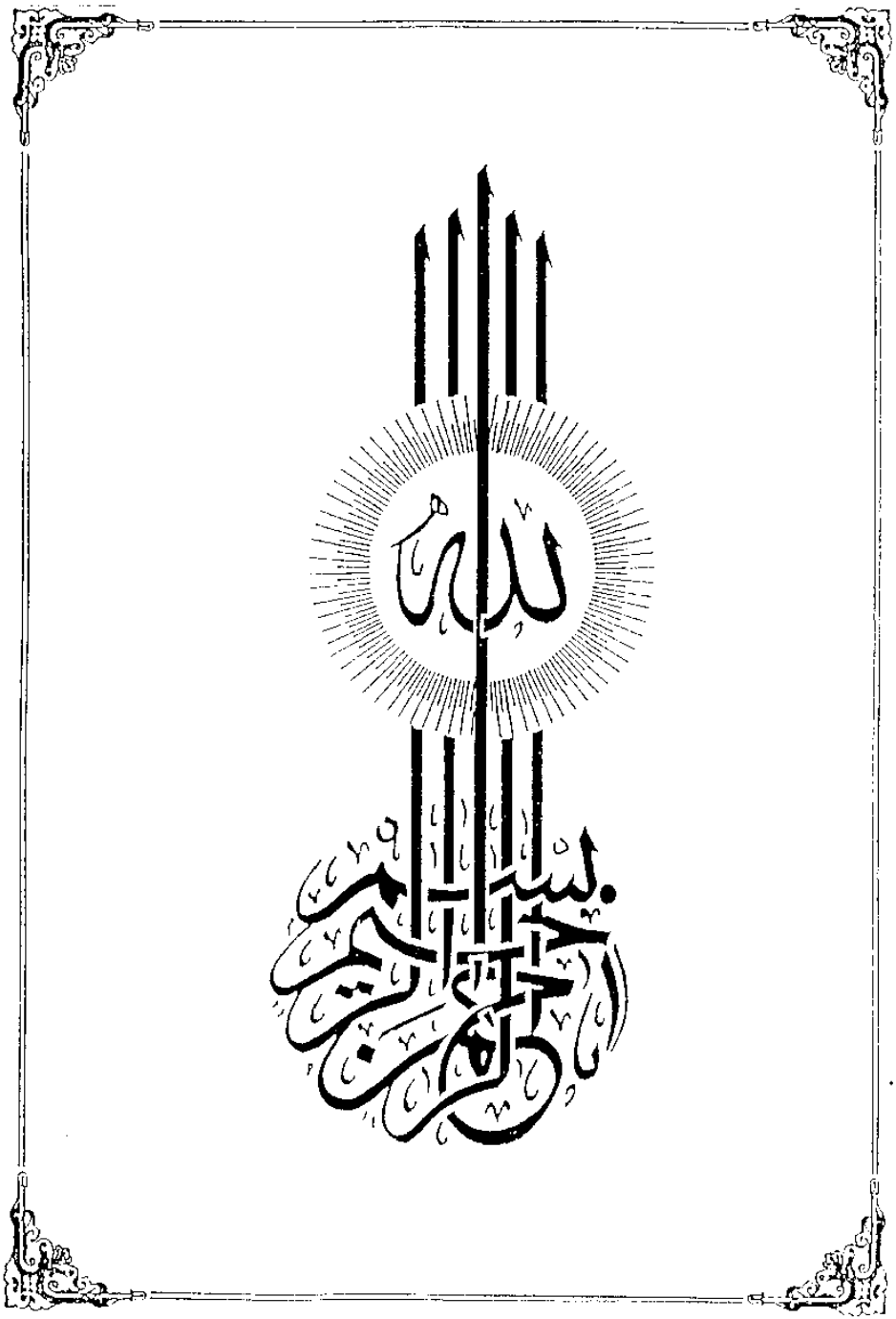

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Dr. A. Imam.

TO

MY

FAMILY

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INTRODUCTION

INTRODUCTION, HISTORICAL ASPECTS AND EPIDEMIOLOGY OF VARICOCELE

"But when the disease has spread also over the testicle and its cord, the testicle sinks a little lower, and becomes smaller than its fellow, in as much as its nutrition has become defective".

This statement concerning varicocele was made by Amelius Cellus who lived from 42 B.C. to 37 A.D. and implies that the varicocele can give rise to atrophy of the testicle (Nilsson, 1984).

In the 16th century, Ambroise Pare defined varicocele as a "block of vessels filled by melancholic blood" and this was almost all that one could find in the medical literature for the following 300 years (Ivanisevich, 1960).

In 1889, Bennet observed the relationship between the presence of a varicocele and diminished sperm production (Greenberg, 1977).

Ivanissevich and Gregouni (1918) defined varicocele as an anatomoclinical syndrome, anatomically characterised by varices inside the scrotum, and clinically be venous reflux.

They proposed high ligation of the left spermatic vein to affect a cure.

Tulloch (1952) reported the restoration of fertility in a previously azoospermic man after varicocele ligation.

Since then, numerous investigators have suggested that the presence of a varicocele could result in lower fertility rates (Scott and Young 1962, Brown et al. 1967, Dubin and Amelar, 1977).

The incidence of varicocele in the general population was reported as 10% by Meyhofer and Wolf in 1960, 15% by Clarke in 1966; Uehling reported 22.6% in 1968; Holnstein 38% in 1973 and 39% by Amelar and Dubin in 1973.

There are differences in varicocele incidence in men from different races. In Brazil, anatomical study of the left spermatic vein in both black and white men led to the conclusion that there is a low incidence of varicocele in

black men, because of the adequate number and efficiency of valves found in their spermatic veins (Goulart, 1935). Low incidence of varicolele in black men was also pointed out in France (Adjiman, 1972).

The prevalence of varicoceles appears to be - within limits - age dependent. According to most investigators, varicoceles are rarely seen before puberty. Demel reported that 60% of varicoceles develop between the ages of 15 and 25 years. According to Ebner, 2% of varicoceles develop before the age of 14, 52% between the ages of 15 and 25, 33% between the ages of 26 and 35, and 13% after the age of 35 years (Wutz, 1982).

Idiopathic varicoceles are predominantly located on the left side, the percentage reported by various investigators differ between 70% and 100% for the left-sided varicocele, between 0% and 23% for varicoceles on both sides, and between 0% and 9% for the right-sided varicocele (Wutz, 1982).

There seems to be a greater worldwide incidence of varicoceles in recent years. This increase is most likely due to a greater awareness of the consequences for semen quality attributed to vricoceles and a more thorough examination of the scrotal organs, particularly by experienced investigators (Wutz, 1982).

In Egypt, there has been a fluctuation in the interest of the medical profession in varicocele. More than thirty years ago, freedom from varicocele was a necessary qualification for appointment in a government job and hence the big numbers of cases referred for surgical treatment. Since then the regulations of the "Government Medical Commission" have changed and varicocele became no longer an impediment to a government appointment. Consequently, the numbers of cases reporting for treatment dropped considerably becoming confined to cases with symptoms related to the varicose pampiniform plexus and the low lying testis. However, the interest of both doctors and the public was revived again more than a decade ago when the relation to fertility was substantiated.

DEFINITION AND CLASSIFICATION

Varicocele is defined as a dilatation, elongation and tortuosity of the veins of the spermatic cord (pampiniform plexus) (Fenster and McLoughlin, 1982; Wutz, 1982).

The pampiniform plexus represents the veins of the spermatic cord, the name being derived from its resemblence to a vine (pampinustendril) (Ham, 1965).

Varicoceles may be classified according to etiology, stages of development and size.

The development of varicocele may be idiopathic or it may be secondary to testicular or renal vein obstruction, as seen in cases with abdominal tumours, particularly hypernephroma.

According to the stage classification, in the development of varicocele the primary defect lies in the internal spermatic vein in stage I, whereas in stage II a secondary varicosity develops in the cremasteric system (Hendry, 1976).

Finally, classification according to size ranges between the nonpalpable or subclinical varicocele and the large abnormality easily palpated by the patient himself (Fenster and McLoughlin, 1982).

The following tables give several suggestions for a grading method. These grading systems are subjective and may suffice for a rough orientation on clinical divisions but are inadequate for an objective analysis. Examples of such classifications are given as follows: