VARICOCELE : NEW MODALITIES OF MANAGEMENT

Essay

Presented By

Mourad Mohamed Fathey

M.B.B. Ch

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Supervised By

Prof. Dr. Nabil Amin El- Mehairy

Professor of General and Vascular Surgery
Faculty of medicine
Ain Shams University

Assistant supervisors

Dr. Abdel Monem Ezzat Wahba

Lecturer of General and Vascular Surgery
Faculty of medicine
Ain Shams University

Dr. Ibrahim Abdel Rafeh

Lecturer of General Surgery
T.H.O.

Faculty of Medicine
Ain Shams University
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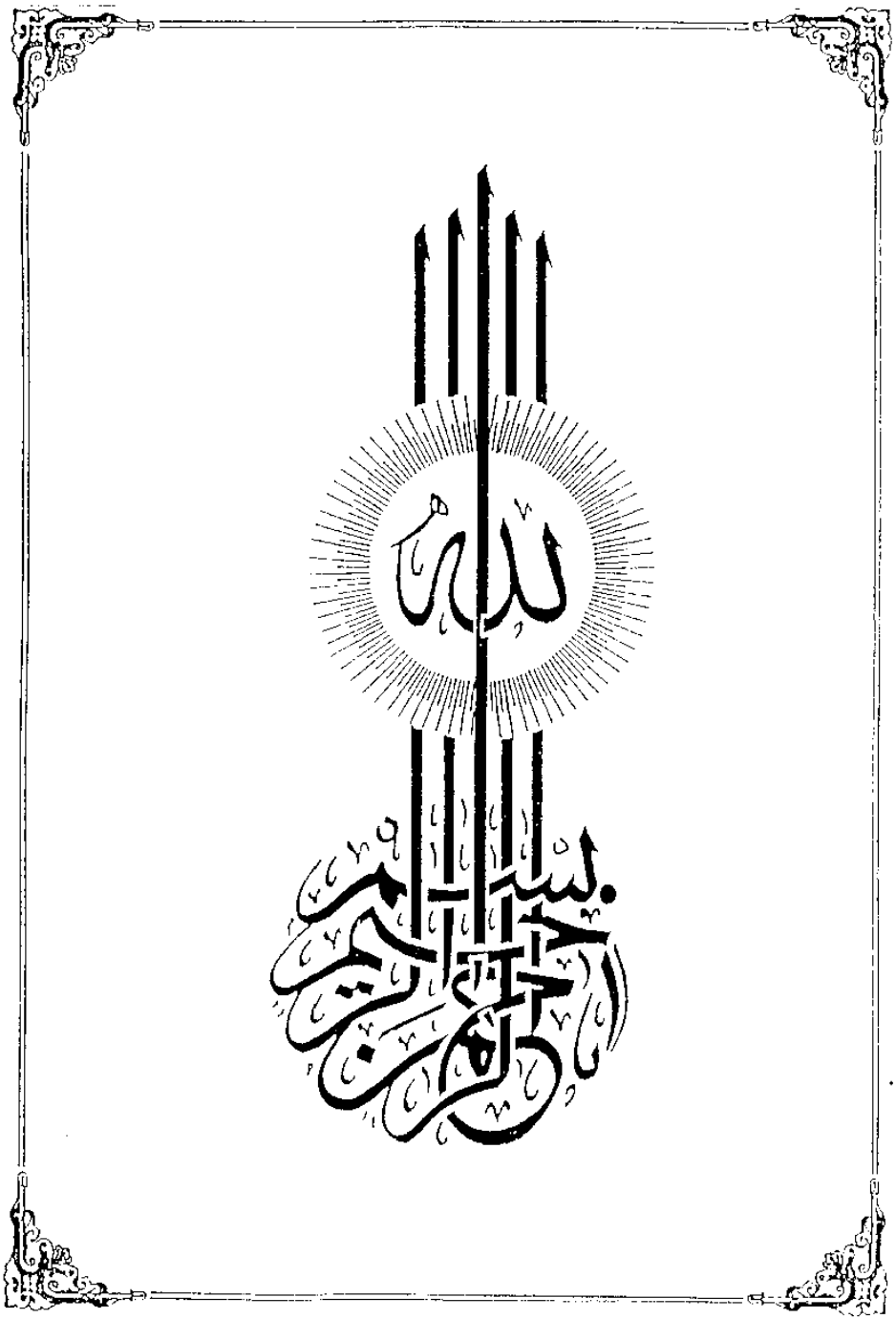
To the one I love
My wife Rania



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INTRODUCTION

Varicocele is an abnormal dilatation of the veins of the pampiniform plexus within the spermatic cord. The importance of the varicocele lies in its common presentation in general public and infertility clinics *Jon, (1987).* It is a common clinical condition that is present in approximately 15% of general male population *Sayfan, (1992).* and it has been implicated as a cause of male infertility as 20-40% of infertile men have a varicocele. *Oliver, (1993).*

The exact pathophysiology of varicocele induced infertility is incompletely understood, however spermatogenesis and fertility have been shown to be improved after varicocele ligation. *Stechel, (1993).*

Several approaches for division or distruction of varicocele are in current use including operative techniques : retro-peritonal approach by *Palomo, (1949),* Transingninal ligation proposed by *Ivanissevich, (1960)* and nonoperative techniques using percutanous methods of embolization. *Donovan, (1992).* A major drawback of these methods is a significant rate of recurrence or rather persistance of the venous reflux. *Sayfan, (1992) .*

Recently, a new modalities of treatment have been evolved; including the laparoscopic ligation under general or local

anaesthesia, microsurgery, microsurgical venous by pass and percutanous ballon occlusion. *Donald, (1992), Joseph (1987).*

Historical Aspects

Varicocele is a hybrid word, derived from the Latin word **varid** which means a dilated vein & Greek word **Kele** which means a swelling or a tumour.

Amelius Cellus, who lived from *42 B.C. to 37A.D.* is one of first men reported on varicocele. He described swollen veins over the testes & noted testicular atrophy on the affected side. After that varicocele had recieved little attention owing to its painless nature. *Greenberg, (1977).*

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

In 1889, *Bennet* described a varicocele as a condition in which varicosity of spermatic cord of congenital origin occurred, resulting in or associated with impaired function of the corresponding testis. *Greenberg, (1977)* .

Ivanissevich and Gregouni (1918) defined varicocele as an anatomicoclinical syndrome, anatomically characterised by varices inside the scrotum and clinically by venous reflux. They proposed high ligation of the left spermatic vein to affect a cure.

A great attention was paid to varicocele after *Tulloch, (1952)* who proved improvement in semen analysis post bilateral varicocelectomy. Since then, numerous investigators have suggested that the presence of a varicocele could result in lower fertility rates *(Scott & Young 1962, Brown (1967) Dubin & Amelar, 1977)* .

ANATOMY

ANATOMY

Blood supply of the testis

Arterial supply

(A) The internal spermatic artery (testicular artery): Fig. (1)

There is one internal spermatic artery on each side which is a long cylendrical vessel and arises from the front of the aorta a short distance inferior to the renal artery. At the level of the second lumbar vertebra behined the posterior peritonium.The artery is closely related to the venous system all through the retroperitoneal course, then, the artery runs infero laterally to enter the inguinal canal through the corresponding deep inguinal ring. *Last, (1990).*

- *Testicular artery in the spermatic cord*

The artery runs through the length of the spermatic cord to reach the posterior border of the testis.

- A solitary testicular artery for each testis is present in 70% of cases.
- Double testicular arteries for a single testis are present in 27% of cases.
- While three arteries for each testis have been noted in 3% of cases. *Edward, (1992).*

- *Relation of the artery to the testicular vein in the cord*

It was classifed as follows :-

1- Adherent to a large internal spermatic vein .

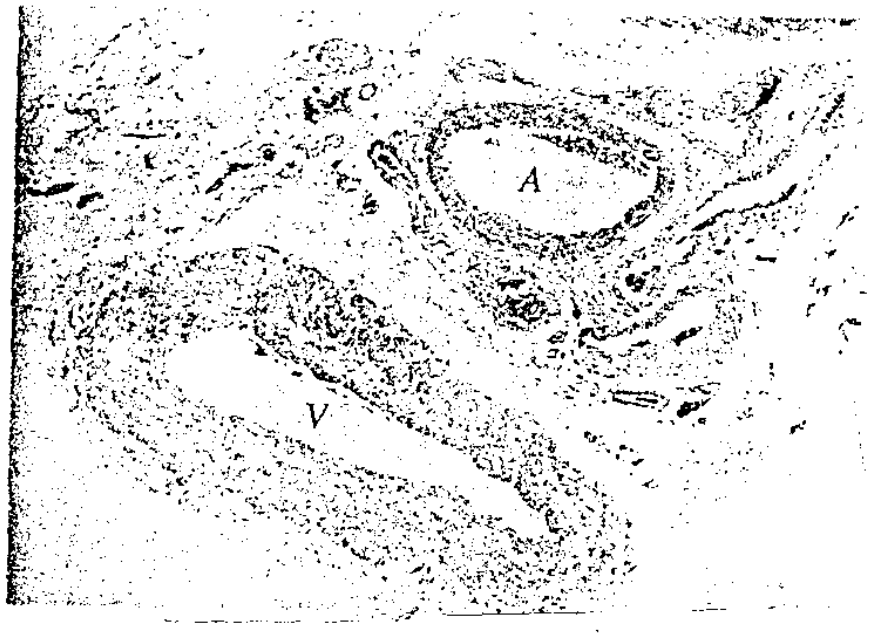

Fig. (1) : Surgical specimen of internal spermatic vessels obtained during artery-ligating varicocelectomy. Small veins are located adjacent to testicular artery . A, testicular artery. V, varicose vein. H&E. ***(Tadashi, 1993)*** **.**

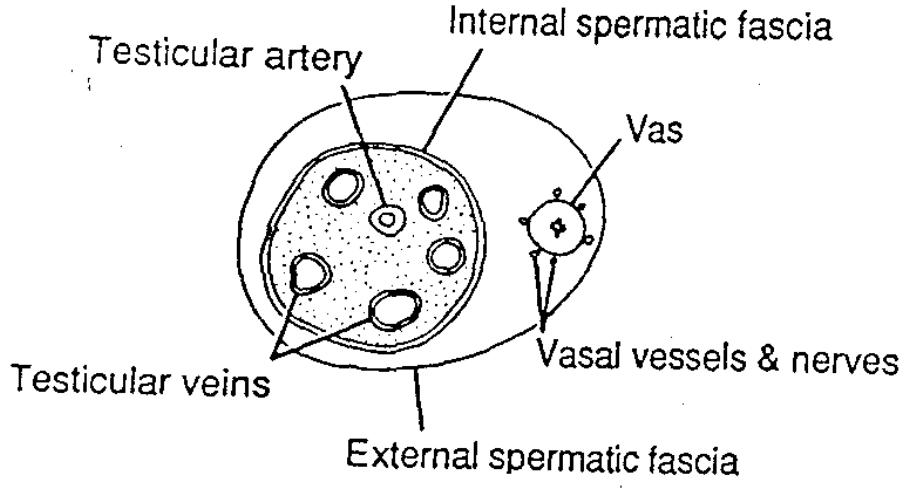

Fig. (2) : Cross section of spermatic cord reveals relationship of vas deferens to internal and external spermatic fasciae . ***(Edward, 1992)*** **.**