

VARICOCELE  
BY  
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Definition :

Varicosity and regurge of the pampiniform plexus of veins in the spermatic cord.

Anatomy :

The testicular Vv. drain into the pampiniform plexus which forms 3-4 Vv. at the level of Superficial inguinal ring and 2-3 Vv. at the deep ring.

These Vv. continue retroperitoneally over the Psoas.

*On right side* - both enter the IVC at acute angles below the right renal V.

*On left side* - join to form a single V. and enter left renal v. at right angles.

Communications :

\*Superior vesical V. through the V. of ductus deferens.

\*Int. iliac V. through the cremasteric V.

\*Superficial ext. Pudendal V. through the scrotal wall.

98 % of varicoceles occur on the left side; probable causes :

\*Left testicular Vv. enter at right angles.

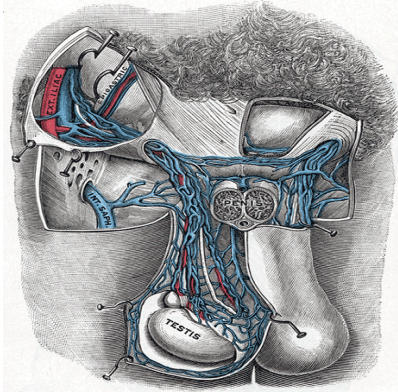
\*Pressure of the loaded sigmoid colon on the left side.

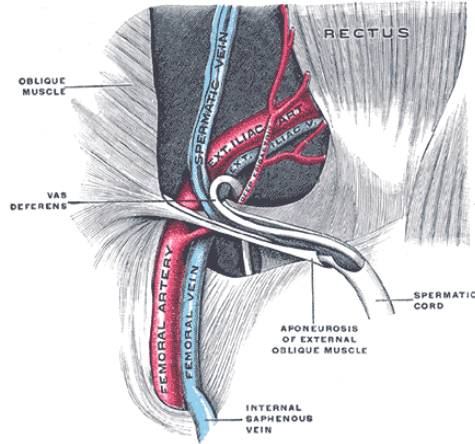
\*Pinching of the left renal V. between the aorta and SMA causing back pressure.

\*Suprarenal Vv. emptying opposite the testicular V, causing possible action of vaso-active substances.

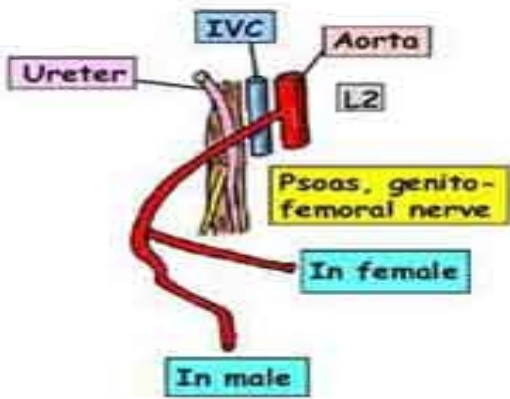
\*More dependent position of the left testis.

\*Renal tumors - causing a rapidly developing varicocele in middle aged adults.





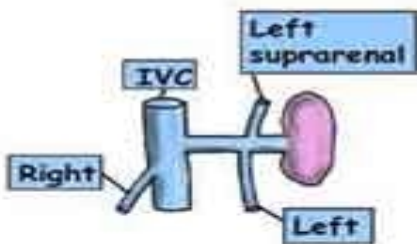
**GONADAL VESSELS**



**IN MALE**  
 Gonadal artery crosses pelvic brim 1/2 way between sacro-iliac joint and inguinal ligament to reach the deep inguinal ring

**IN FEMALE**  
 Gonadal artery enters suspensory ligament of ovary at pelvic brim

**GONADAL VEINS**



**VARICOCELE**  
 Distension of the pampiniform plexus of veins above the testis occurs because of retrograde filling back down the left testicular vein. It is secondary to incompetence of the valve where the testicular vein joins the left renal vein, perhaps due to the angle of entry. Sigmoid colic pressure, adrenal products entering the vein or a renal tumour may all make a varicocele worse

C/F :

Common in young males - age 10 to 30.

May occur in elderly - r/o renal tumors.

Common in asthenic individuals.

**C/O :**

Dull aching pain in scrotum & testis - weight of boggy testis is borne by the cord.

Swelling in scrotum - disappears on lying down.

Commonly present with infertility as the chief complaint

**O/E :**

MUST examine in standing & supine positions.

Common on left side. *If present on right side - extensive investigations to rule out obstructive pathology.*

"Bag of Worms" feel to the swelling.

Compressible, reduces on lying down. *If not, there may be an obstruction like renal tumor.*

Fluid thrill on cough.

In long standing cases - testis is smaller, and softer.

**Investigations**

\*Semen analysis – stress pattern- oligospermia- increased abnormal forms.

\*Doppler stethoscope.

\*colored doplex.

\*venogram- either percutaneous or intra-operative (academic)

**Treatment :**

Surgical treatment is the best modality & consists of ligation of the varicose Vv. by any of these routes :

\*Scrotal - Risk of injury to testicular A. Some Vv. may be missed, causing recurrence.

\*Retro-peritoneal (PALOMO'S) - Inadequate field of vision; May damage testicular A., will not work if other Vv. e.g. cremasteric are the cause.

\*Inguinal - Most preferred route; adequate exposure, other causative Vv. can be tackled. Testicular Vv. ligated at level of deep ring.

\*Laparoscopic- more exploratory- bilateral ligation- general anesthesia

**Complications of surgery:**

\*Damage to testicular A. - testicular ischemia.

\*Recurrence - may be due to other venous systems.

\*Secondary hydrocele - may be due to injury to lymphatics.

\*Local wound complications- infection-hematoma

**Other modalities in treatment**

\*Spermatic –Saphenous venous shunt.

\*Percutaneous sclerosing using balloon or coil.