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Varicocele is defined as elongation, dilatation and tortuousity of the veins draining the testis and its surroundings (pampinoform plexus and / or cremasteric plexus and / or vasal plexus), resulting from reflux of venous blood along the internal spermatic vein *(Kormano et al., 1970).*

Varicocele is a well-established cause of male infertility. The mechanism of fertility impairment remains unknown. Various hypotheses have been put forward to explain the cause of infertility in men with varicocele *(Dhabuwala et al., 1992).*

Varicocele has been implicated as a cause of male infertility on the basis of three observations :

1- The incidence of a varicocele in infertile male populations has been noted to be higher than that in general population.
2- In some subjects, the presence of a varicocele is associated with abnormalities in the seminal fluid and testicular histology.
3- Varicocelectomy has been noted to result in improvement in semen quality in 50 to 80% of cases and pregnancy rates of about 50% have been reported *(Rodrignez - Rigau et al., 1978).*

The prevalence of varicocele in general population is reported to be up to 20%. The incidence of varicocele in adult male infertility clinics has been reported to range from 21% to 41% *(Morag et al., 1984).*

Varicoceles are rare before puberity but first appear between 10 and 14 years. Once a varicocele has developed, there is evidence that damage to the testis may be progressive *(Kass et al., 1989).*

Left varicoceles have been detected in up to 40% of infertile patients, isolated right varicoceles are rare (<2%) in normal or infertile men, but bilateral varicoceles are found in up to 20% of infertile patients ***(Turek and Lipshultz, 1995).***

The incidence of varicocele is greater in cigarette smokers than in non-smokers. Male cigarette smokers have also been reported to have low sperm counts, decreased motility and increased percentage of abnormal spermatozoa. The greater incidence of varicocele in cigarette smokers may, in part, explain the semen abnormalities found in cigarette smokers ***(Klaiber et al., 1980).***

The pathogenesis of varicocele is as yet unknown. The most favoured hypotheses for varicocele formation are considered to be the presence of incompetent testicular vein valves and / or increased hydrostatic pressure ***(Lewis, 1950).***

Varicoceles are usually asymptomatic however, when they are large they are often associated with pain or testicular atrophy, both of which are indications for treatment ***(Ahlberg et al., 1966).***

Various surgical and percutaneous approaches are used in varix ligation. The testicular vein may be tied above the internal ring, Palomo approach or high ligation ***(Palomo, 1949),*** at the internal inguinal ring, Ivanissevich or inguinal approach ***(Ivanissevich, 1960)*** or at the scrotal neck, scrotal approach. The latter approach is not widely used because the testicular vein may have many branches and it is difficult to be sure that they have all been ligated. Also, it is difficult to distinguish veins from

branches of the testicular artery, giving a risk of devascularisation and ganagrene of the testis. The inguinal approach is more popular but has the same disadvantages *(Hargreave, 1993).*

The original Palomo approach has the disadvantage of postoperative hydrocele due to ligation of the lymphatic vessels, because the veins and the artery are ligated en-mass. The more popular modified Palomo approach where the veins are dissected off the artery and ligated has the disadvantage of missing those veins branching through the back of the inguinal canal lower down and often seen travelling with or close to the vas *(Coptcoat, 1992).*

The percutaneous approach (transvenous percutaneous embolisation under radiological control) has 15% failure rate and carries the hazards of vessel perforation and embolus migration *(Lynch et al., 1993).*

With new era of laparoscopy, with good illumination and magnification, it should be possible to dissect the veins around the artery and those perforating veins at the posterior wall of the inguinal canal *(Hagood et al., 1992 and Donovan and Winfield, 1992).*

The interest for laparoscopic procedures is rapidly becoming a global phenomenon. Divergent opinion as to the proper method for varix ligation led to the development of a laparoscopic technique for spermatic vein ligation. The less invasive laparoscopic varicocelectomy offered an ideal alternative to the current treatment modalities *(Mischinger et al., 1994).*

The aim of this work is to compare between the effect of laparoscopic varicocelectomy and open surgery by the high ligation approach "Palomo operation" on subfertile men with varicocele regarding:

- Assessment of the technique used, by :
  - Feasibility of bilateral ligation.
  - Operative time.
  - Operative complications.
  - Hospital stay.
  - Improvement in semen quality.
  - Recurrence rate.
- Estimation of the semen parameters three and six months after the operation.