Case 15908

Endovascular treatment in
varicocele

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Section: Interventional radiology
Area of Interest: Genital / Reproductive system male
Procedure: Embolisation
Imaging Technique: Catheter venography
Special Focus: Haemodynamics / Flow dynamics Case
Type: Clinical Cases
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Patient: 33 years, male

Clinical History:

A 33-year-old male patient presented to the OPD with complaints of heaviness and boggy swelling in the scrotum which was more during his work and while walking, these complaints have aggravated more since the last 3 months.

Imaging Findings:

On clinical examination a swelling was noted on the left side in an erect posture at rest and a swelling was seen bilaterally on performing Valsalva's manoeuvre. A Doppler was performed which revealed prominent dilated veins on the left side with reflux and mildly prominent veins without reflux on the right. Patients semen analysis showed deranged values suggestive of varicocele leading to infertility. Patient was referred to the Intervention Radiology team for endovascular management as patient did not want a surgical treatment. Endovascular embolisation was planned, a right femoral vein access was achieved and a 5F sheath placed. The left renal vein was cannulated with a 5F Cobra catheter, the left internal spermatic vein was visualised and selectively cannulated, Valsalva's manoeuvre was performed to demonstrate reflux and two 3mm Nester coils were used for embolising the vein.

Discussion:

Varicocele is a condition characterised by abnormal dilated pampiniform plexus veins in spermatic cord. The condition affects up to 15% of the male population. Primary infertility is seen in 35% and secondary infertility is seen in up to 80% of cases [1]. Varicocele cases are of two types: a) primary and b) secondary. Varicocele leads to progressive impaired semen parameters. These patients are usually asymptomatic however sometimes with complaints of scrotal discomfort. Diagnosis of the condition is made by clinically by eliciting a detail reproductive and sexual history along with physical examination performed in standing position both at rest and while performing Valsalva's manoeuvre. Scrotal ultrasound is very sensitive and specific (97% and 94% respectively) [2]. Criteria to diagnose varicocele includes dilated spermatic vein with demonstration of reversal of flow on colour doppler. Dilated vein diameter more than 2-3 mm is taken as cut off. Varicocele correction is performed in patients with deranged semen parameters and failure of conservative treatment in scrotal pain.

Percutaneous treatment is least invasive and is performed under local anaesthesia. Venography helps in planning the procedure by visualisation of internal spermatic vein. The first percutaneous intervention was attempted by Lima et al. using glucose and sclerosant as the embolic material [3]. The procedure can be performed by both transfemoral and transjugular routes. Transjugular route is mostly used to treat the right sided varicocele. Both solid and liquid embolic agents can be used and is mainly dependant on the operator choice. The disadvantage of
solid ecbolics include venous perforation or coil migration and that of liquids include non target embolisation, Cather entrapment and infection [4]. Post procedure the patient is advised to avoid strenuous activity for couple of days and is followed up with doppler at 3 months and semen evaluation at 6 months. Cayan et al. reported a technical failure rate of 13.05% for percutaneous treatment [5].

Written informed patient consent for publication has been obtained.

**Differential Diagnosis List:** Left sided varicocele embolisation, Primary Varicocele, Secondary Varicocele

**Final Diagnosis:** Left sided varicocele embolisation

**References:**

Description: Visualisation of left internal spermatic vein. Origin: BGS Gleneagles Global Hospital
**Description**: Demonstration of left internal spermatic vein. **Origin**: BGS Gleneagles Global Hospital
Figure 3

Description: Coil embolisation of the internal spermatic vein. Origin: BGS Gleneagles Global Hospital
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