

INTRODUCTION

Congenital varicosity & 'venous malformations (low flow)' are more common than arterio-venous (AVM) – High flow vascular lesions. It ranges from 'anomalies of venous anatomy' to focal cavernous lesions. In mixed lesions venous component is dominant. These are generally **Non-neoplastic lesions** & shows growth with the growth of individual. Many times VM lesion is congenital, no associated family history. Most of patients having bleeding Tense, painful, spontaneous or superimposed thrombotic or infiltrating skeletal muscle lesions definitely need 'Endovascular IR Treatments

BACKGROUND

- Klippel – Treanunay syndrome (KTS)
- Mixed capillary, venous & lymphatic lesions.
- Since birth suffering from dilated tortuous venous malformations in calf, posterior aspect of thigh with subcutaneous venous hypertrophy.
- Unilateral leg enlargement, limb discrepancy & Knee Jt. deformity.
- Reddish black coloured big patch in Mid-thigh, swelling over dorsum of foot, Hyperpigmented area, multiple phleboliths, cutaneous lesions & Cavernous Hemangioma since birth time.
- Bunch of gross venous channels Growing in size & Primary Varicosity with Cord like tender varices & changes of thrombophlebitis in thigh.
- Persistent sciatic vein - 'Marginal Vein' Outside the leg Is important exit route to get out impure blood from leg.
- Deep veins abnormalities – Aplasia (complete absence) / Hypoplasia (partial blockage)

PURPOSE

To evaluate endovascular & Interventional Radiological procedures like Endovenous laser (Thermal) ablation, Inj. Ethanol (95% Absolute alcohol with Inj. Lipidol / Embotrust Ethiodised Poppy seed oil as contrast agent & foam sclerotherapy) as a result oriented therapeutic option for the symptomatic patients having bleeding Tense, painful, spontaneous or superimposed thrombotic or infiltrating skeletal muscle lesions.

MATERIAL & METHODS

- Laser ablation & Embolisation with Absolute Alcohol & sclerosing agents is done in Single lower limb of 29 young patients (Age group 4-18 yrs) operated in 2012-18.
- All of these patients selected for procedure by prior 'Venous Doppler study', 3T MRI Scan of soft tissue (spin echo T1 & T2 fat saturation & inversion recovery) and 'DSA Contrast Venography' with closed space direct puncture venography.
- Arteriography is unimpressive unless A-V Fistula is there.
- Compression garments for localized painful distention, Analgesics & Anti-inflammatory (NSAID) for superficial phlebitis & local thrombosis.
- Percutaneous sclerotherapy by using Inj. Polidocanol or Inj. Setrol (STD) for cavernous venous lesions
- Absolute Alcohol embolisation for venous lesions infiltrating skeletal muscle, Double needle sclerotherapy for wide spread malformation and Endo-venous laser to ablate incompetent Great & short saphenous veins with patent deep venous system in congenital varicosity used.
- All patients followed in clinic at 1, 3, 6 mts & 2 yrs interval.

RESULTS

CASE 1
Ms. RS, 24 Yr. / Female, Lt. Leg
Gross Venous Malformations & Congenital Varicosity, Knee Joint Deformity.



CASE 1 (RESULT)



CASE 2
Mr. PD, 31 Yr. / Male, Lt. Leg
Gross Multiple Dilated Tortuous, Bunch of Gross Venous Channels, Tender Varices With Venous Hypertrophy, Limb Discrepancy, Knee Joint Deformity.



CASE 2 (RESULT)



CASE 3
Mr. SN, 24 Yr. / Male, Lt. Leg
Congenital Varicosity, Reddish-Black Hyper Pigmentation in Thigh & Swelling in Dorsum of Foot.



CASE 3 (RESULT)



CASE 4
Ms. SR, 10 Yr. / Female Rt. Leg
Congenital Varicosity With Gross Venous Malformation, Gross Soft Tissue Swelling Over Ankle & Dorsum of Foot, Multiple Phleboliths Over Fingers, Heel, Sole Region.



CASE 4 (RESULT)



RESULTS

- Successful Thermal ablation observed in all congenital varicosity cases. Great & Short saphenous veins ablated with both types of diode Laser technology. Hemoglobin specific 980nm with bare tip / frontal emission laser fiber & Water molecule specific 1470nm wavelength painless laser with bare tip (603 micron) & single -2 ring Radial fiber (360 degree) on Bioletec AG Germany, Ceralas class-4 laser machines.
- In all these cases Deep venous system found patent, No hypoplasia or Aplasia existed.
- Abnormal, dilated, intricate cutaneous & intra muscular localised venous channels successfully Embolised with Absolute Alcohol & sclerosant agents in 6 months span.
- No complications like acute venous insufficiency, intractable leg swelling or mortality documented in any case till date.

CONCLUSION

This study showed that Endovenous laser ablation for symptomatic superficial, abnormal veins, direct puncture embolisation for cavernous venous lesions and Absolute Alcohol embolisation for venous lesions infiltrating skeletal muscle, is a feasible, efficient & safe treatment of choice in these patients with congenital venous malformations (KT syndrome cases). This combined role of therapy for CVM cases should be included as a innovative option by Vascular surgeons & interventional radiologist performing advanced, challenging venous interventions.

DISCLOSURES

MAC- Educational Grantee Awardee as per Euro Med Tech Ethical Business Protocol.