Abstract:

TO THE INFRAINGUINAL OR PELVIC DEEP VENOUS SYSTEM. DOPPLER EXAMINATION IS A USEFUL INITIAL INVESTIGATION IN PATIENTS WITH KTS SYNDROME. CONVENTIONAL VENOGRAPHY AND CT VENOGRAPHY ARE USEFUL FOR IMAGING VEINS FILLED WITH CONTRAST MATERIAL. MOST PATIENTS WITH KTS ARE TREATED CONSERVATIVELY, BUT SURGERY (SURGICAL STRIPPING PHLEBECTOMY- SUBFASCIAL ENDOSCOPIC LIGATION OF PERFORATING VEINS) OR IMAGING-GUIDED INTERVENTION (SCLEROTHERAPY WITH ALCOHOL OR FOAM, SELECTIVE ENDOVENOUS THERMAL ABLATION) IS PERFORMED IN SELECTED CASES.

Keyword: KLIPPEL-TRENAUNAY SYNDROME, LOW FLOW VASCULAR MALFORMATION.

INTRODUCTION:

HISTORY:

A 22 year old women was admitted with bleeding per rectum was found to have rectosigmoid varices in sigmoidoscopy. Clinically she had Dilated varicose vein in right lower limb. Varicosities were seen predominantly in lateral aspect of leg and thigh, Pigmented nevi in right lower limb.

DISCUSSION

Doppler study shows Femoral artery and vein were visualised and normal. Saphenofemoral junction is not visualized. Absence of great saphenous vein. Lateral aspect of thigh shows subcutaneous dilated varicosities with multiple perforator incompetence. This lateral vein goes up to upper thigh and goes deep in to the gluteal region. Conventional venogram was done using standard fluoroscopy unit. Injection of 120 mL of diluted (2:1) contrast was performed manually at a rate of 1 mL/sec as a split injection into a superficial vein on the dorsum of the foot. A tourniquet was fixed at the ankle, below knee, thigh to ensure filling of the deep venous system. Images of were obtained. Imaging was repeated without the tourniquet for display of the superficial venous system. Conventional CT venogram shows normal deep venous system with multiple superficial varicosities with multiple perforator incompetence. Great saphenous vein is atretic at thigh level with a collateral vein "vein of servelle" draining into iliac vein. MDCT examinations were performed with a 64-MDCT scanner. The parameters for CT venography were beam collimation, 20 mm; pitch 1.75; slice were beam collimation, 20 mm; pitch 1.75; slice material with a concentration of 350 mg I/mL (iohexol) was administered with an automatic injector into the subcutaneous superficial veins through a 22-gauge IV line at a rate of 1.5 mL/s for each extremity. The contrast material was diluted (1:3) to avoid artifacts. The total amount of contrast material used was 30 mL. The scanning protocol was from distal to proximal, and a bolus-tracking method was used. Acquisition was triggered automatically when the contrast material reached the level of the femoral vein. Plain CT shows multiple phlebolith in perirectal, vulval and in the lower limb veins. Multiple superficial varicosities in rt lower limb extending from foot to pelvis. A pathological vein of servelle or sciatic vein is seen extending through the lateral aspect of thigh to finally drain into the rt common iliac vein. Multiple perforators are seen extending throughout the course of this lateral vein to the deep venous system. Great saphenous vein is atretic at the thigh level. Patient was treated conservatively.
Unusual Causes of Varicose Veins in the Lower Extremities: CT Venographic and Doppler US Findings

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Direct CT Venography for Evaluation of the Lower Extremity Venous Anomalies of Klippel Trénaunay Syndrome

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Dilated varicose vein in right lower limb.

COLOUR DOPPLER: Medial aspect of thigh shows absence of great saphenous vein.

COLOUR DOPPLER: Lateral aspect of thigh shows subcutaneous dilated varicosities with multiple perforator incompetence.

COLOR DOPPLER: Femoral artery and vein were visualised and normal. Saphenofemoral junction is not visualised.

COLOUR DOPPLER: Lateral aspect of thigh shows subcutaneous dilated varicosities with multiple perforator incompetence.

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CONVENTIONAL VENOGRAM SHOWING FILLING UP OF ANTERIOR TIBIAL VEIN AND ABNORMAL LATERAL VEIN

CONVENTIONAL VENOGRAM SHOWING NORMAL POPLITEAL VEIN AND MULTIPLE PERFORATOR INCOMPETENCE AT KNEE LEVEL

CONVENTIONAL VENOGRAM SHOWING NORMAL FEMORAL VEIN WITH AGENESIS OF GREAT SAPHENOUS VEIN

CONVENTIONAL VENOGRAM SHOWING ABNORMAL LATERAL VEIN DRAINING INTO ILIAC VEIN

PLAIN CT SHOWING MULTIPLE PERIRECTAL PHLEBOLITHS
volume rendered ct venogram showing the varices with perforators and abnormal lateral vein

BIBLIography
