How to read and write a complete venous ultrasound report

Nicos Labropoulos
Professor of Surgery and Radiology
Director, Vascular Laboratory
Division of Vascular Surgery
Stony Brook University Medical Center
Stony Brook, New York, USA
Disclosure

Nicos Labropoulos, PhD, RVT

I disclose the following financial relationship(s):

• Speaker/Honoraria: Cook;
• Consultant/Advisory Board: Cook, Covidien
Reflux
- Primary
- Secondary

Obstruction
Thrombosis
- Acute, Chronic
Extrinsic compression
- Stenosis, occlusion

Important anatomic variations
IVC aplasia, GSV duplication, etc

Incidental findings
Aneurysms, cysts, tumors etc, etc
Female 49y, 2 pregnancies, FH: +ve, DOD: 11y

C\textsubscript{1-3S} E\textsubscript{P} A\textsubscript{S+P} P\textsubscript{R} C\textsubscript{1-4S} E\textsubscript{P} A\textsubscript{S+P+D} P\textsubscript{R+O}

LT: POPV + MGV had partial recanalization with reflux
Duplex ultrasound report of a patient with bilateral chronic venous disease, who presented with burning sensation, itching and heaviness.

**Right**

GSV from SFJ to knee, anterior and posterior accessory calf veins had reflux. An incompetent posteromedial midcalf perforator measured 3.7mm.

The below knee segment of GSV (hypoplastic mid to upper calf), SSV and deep veins were patent and competent.
Duplex ultrasound report of a patient with bilateral chronic venous disease, who presented with burning sensation, itching and heaviness.

Left
Reflux was found throughout the length of SSV involving its thigh extension and SFJ. GSV 5cm below the SFJ was normal. The posterior accessory vein was connected with a refluxing SSV tributary and was incompetent.

Three medial calf perforators had reflux and measured 3.5mm, 4.9mm and 3.2mm respectively.

One of the two popliteal veins (the one closer to the skin) and two medial gastrocnemial veins had partial obstruction with reflux.
Male 56y, DOD: 4y

LT: CIV, EIV, CFV, FV, POPV, MGV, PERV, PTV had chronic thrombosis. Reflux was seen in POPV, MGV and PTV.
Duplex ultrasound report of a patient with bilateral CVD, who had venous claudication on the left LE and no symptoms on the right LE.

**Right**
A posterolateral thigh tributary extending to the calf had reflux. A thigh perforator connecting this tributary to the deep femoral vein was incompetent and measured 4.2mm.

GSV, SSV and deep veins were patent and competent.
Duplex ultrasound report of a patient with bilateral CVD, who had venous claudication on the left LE and no symptoms on the right LE.

Left
Chronic obstruction of the CIV, and EIV with compression of CIV by the right CIA (remaining lumen, 2.8mm). Partial recanalization was found in CFV and FV. Deep femoral vein was patent. The medial circumflex femoral vein had reversed continuous flow. Reflux was found in the POPV, MGV, PTV, SSV, two tributaries of SSV and a posterior calf perforator that measured 3.9mm.

Groin tributaries and GSV were dilated and patent with continuous flow.
Duplex ultrasound report of a patient with right LE calf pain.

**Right**
No evidence of deep vein thrombosis. Deep and superficial veins were patent and competent. A ruptured popliteal cyst was found in the posteromedial fossa extending into the calf.
Duplex ultrasound report of a patient with shortness of breath and chest pain 16 days after colon resection for diverticulitis.

Right
Acute thrombus was found in the EIV, CFV, FV, POPV, TPT, PERV and soleal veins.

Left
Acute thrombus was found in the PERV, PTV and soleal veins.
Duplex ultrasound report of a patient with shortness of breath and chest pain 16 days after colon resection for diverticulitis.

**Right**
Acute thrombus was found in the EIV, CFV, FV, POPV, TPT, PERV and soleal veins.

**Left**
Acute thrombus was found in the PERV, PTV and soleal veins.
Duplex ultrasound report for vein mapping

RIGHT

5.9
4.2
4.0
3.9
3.2
0.0
0.0
0.0
3.2
3.0

LEFT

3.6
3.3
2.9
3.1
3.0
2.8
3.9
3.2
2.9
2.7

6.1
4.8
0.0
0.0
0.0
0.0
0.0
3.8
3.4
3.2
Duplex ultrasound report for vein mapping

Right
GSV from SFJ to knee measured from 5.9 to 3.2mm. It was aplastic from knee to midcalf and replaced by an accessory vein that measured from 2.8 to 2.6mm. The SSV was hypoplastic.

Left
SFJ (6.1mm) and GSV in the upper thigh (4.8) continued with the AASV and the thigh extension of SSV. SSV measured from 3.6mm at its confluence with the GSV to 2.7mm at the ankle. GSV was aplastic from the upper thigh to upper calf. It was replaced by the anterior accessory vein that measured from 3.2 to 2.0mm. The GSV from the upper calf to ankle measured 3.8 to 3.2mm.
Female 23y

C₀A E₉ A N P N
C₁⁻₄S E C A S⁺P⁺D P R

RIGHT

LEFT
Duplex ultrasound report for venous malformation in a female patient who presented with worsening swelling and pain.

**Right**
Superficial and deep veins were patent and competent.

**Left**
An extensive venous malformation was found in the lower thigh, knee and calf. There were many dilated veins with slow flow, in the subcutaneous space, muscles and the knee joint. No fistula was detected.