



Femoral Block Anaesthesia under Ultrasound Guidance to perform ELVeS

Endovenous Laser Ablation (ELVeS) is now established as a good option to treat varicose veins due to reflux of the GSV. This technique must be performed using Tumescence Local Anaesthesia, which provides good anaesthesia, good contact between the fiber tip and the vein wall and a thermal buffer to prevent heat damage in the surrounding tissue, but because the large amount of liquid injected around the vein the US imaging loss in quality and difficult the visualization of the ablation process in real time. Recently, water absorbed LASER units (1470 nm.) used with radial emission fibers was introduced allowing to perform the ablations without TLA.

Femoral Blockage is not a new technique, it is widely used in orthopaedic surgery and other surgical procedures in the thigh.

STEP BY STEP

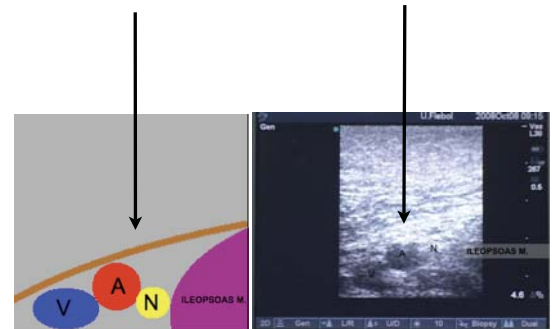
1. Attach monitors and if necessary give light sedation.
2. Patient position: supine with the operative leg slightly abducted.
3. Prep the groin,
4. Place a transducer with the appropriate frequency range (10-12 MHz) along the inguinal crease. If the femoral artery and nerve are deep (> 4 cm), use a 7 MHz transducer
5. Optimize machine imaging capability; select appropriate depth of field (usually within 1-3 cm), focus range and gain
6. Identify the femoral artery. If the image shows more than 1 artery, scan more proximally (cephalad) to visualize the artery before the profunda femoris artery branches off
7. Identify the femoral artery (FA). If the image shows more than 1 artery, scan more proximally (cephalad) to visualize the artery before the profunda femoris artery branches off.
8. Locate the femoral nerve externally to the FA within a triangular hyperechoic region, lateral to the FA and superficial to the iliopsoas muscle.
9. Place a skin wheal of lidocaine over the target.
10. Under US control, insert a needle through the skin wheal perpendicular to the transducer and the ultrasound beam and progress to the target
11. Once satisfied with needle placement, inject around the nerve and under US guidance 10/20 cc. Lidocaine 0.5% without epinephrine
12. Scan proximally and distally to assess the extent of local anesthetic spread

PEARLS

The posterior division of the femoral nerve (which provides motor innervation to the quadriceps muscles) is located on the lateral aspect of the femoral triangle

Inguinal lymph nodes also appear hyperechoic and may be confused with the nerve in the short axis view. (Scan proximally and distally in this region)

The fascia iliaca (a hyperechoic line) is superficial to the nerve and its branches



CONTRAINDICATIONS

- ABSOLUTE:** Patient refusal
Allergy to local anesthetics
infection at the site of injection
Femoral neuropathy
- RELATIVE** Femoral vascular graft

<http://www.youtube.com/watch?v=fJENPRI5TWQ>

CONCLUSION:

FBA under US control is an excellent option to use in outpatients submitted to endovenous thermal ablations of the GSV above knee. It is easy to do, cheap, with a short learning curve and promotes a good anaesthesia with no or minimal motor blockage.

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