

Supraclavicular Vein Approach: a Technique to Overcome Ipsilateral Chronic Subclavian Vein Obstruction when Implanting Pacemaker-ICD Leads

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Total subclavian vein occlusion represents a difficult obstacle when a lead has to be inserted into the ipsilateral vein. We report our experience with supraclavicular vein approach of subclavian vein puncture to overcome its ipsilateral chronic obstruction when implanting pacemaker-Implantable Cardioverter Ddefibrillator (ICD) leads. The subclavian vein obstruction was documented by venography. The skin was punctured by a 18 gauge needle, 1cm laterally to the lateral head of the sternocleidomastoideus muscle and 1cm cranially to the clavicle. The needle was directed closely under the clavicle pointing to the sternal notch. Once the vein was successfully punctured, medially to the obstruction, a 0.38 inch guide -wire was inserted into the venous bed. Subsequently a peel away sheath was indwelled using the Seldinger technique. The leads were placed in the standard fashion; they were secured by suture to the subcutaneous tissue of the fossa supraclavicularis major using a protective sleeve. The proximal portion of the lead was tunneled over the clavicle down to the device prepectoral pocket. Lead insertion was performed in 4 patients with total left subclavian vein obstruction; their mean age was 67 ± 10.5 years; an ICD was implanted previously in 3 patients, while it was a de novo implant in one patient. The mean follow-up was 2.25 ± 1.5 years. There were no complications of the surgical wound and the leads parameters remained stable. In our experience the supraclavicular approach of the subclavian vein puncture to overcome the ipsilateral total occlusion is feasible and safe