

Predicting Venous Occlusion in Patients with an Implanted Electronic Cardiac Device

Yair Elitzur¹, Emmanuel Sirat¹, Ayelet Shauer¹, Mohammed Afifi¹, Yitzik Biton¹, David Orenstein¹, Zehava Sharon¹, Israel Gotsman¹, and David Luria¹

¹Hadassah Medical Center

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Abstract

Introduction - Over time, many patients with cardiac implanted devices (CIED) require revision or addition of leads. Predicting patency of the previously implanted vein is important in planning the procedure. The purpose of this study was to examine the accuracy of inspection of the skin overlying a previous CIED implant (usually the shoulder on the implanted side) for prominence of collateral veins, as a predictor of significant venous stenosis or obstruction. **Methods** - The shoulder area of 38 patients undergoing any procedure related to a previously implanted CIED was inspected by a physician who assigned a 'collateral score' of 1-4. Venography was then performed and assessed by two physicians, blinded to the assessment by physical examination. A 'patency score' was assigned (1-5). The predictive value of the collateral score for venous patency or any degree of obstruction was assessed. **Results** - The study included 38 patients. The area under the ROC curve of collateral score as a predictor of any degree of obstruction (patency score>1) was 0.859, indicating excellent correlation. A collateral score of 1.75 yielded a sensitivity of 78.9% and specificity of 88.6% for any degree of venous obstruction. **Conclusion** - In patients with a previously implanted cardiac device, patency of the implanted vein may be reliably predicted by lack of collateral veins on inspection. **Keywords** - Pacemaker, implanted device, lead revision, venous patency, physical examination

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