**SUPERIOR VENA CAVA (SVC) ECHOCARDIOGRAPHY AS A SCREENING TOOL TO PREDICT CARDIOVASCULAR IMPLANTABLE DEVICE (CIED) LEAD FIBROSIS**

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Objectives: Currently there is no noninvasive imaging modality used to risk stratify patients requiring lead extractions. We report the novel use of SVC echocardiography to identify lead fibrosis and complex CIED lead extraction.

Background: With an aging population and expanding indications for cardiac device implantation, the ability to deal with the complications associated with chronically implanted device has also increased.

Methods: This was a retrospective analysis of Doppler echocardiography recorded in our outpatient office over 6 months.

Results: Images from 113 randomly selected patients were reviewed. 60% (68/113) did not have a CIED and 40% (45/113) had a CIED. In patients without a CIED, 6% (4/68) displayed turbulent color flow by Doppler in the SVC, while 22% (10/45) of patients with a CIED displayed turbulent flow. Chi square analysis found a statistically significant difference between the two groups (p value < 0.05). The CIED group was subdivided into 2 groups based on device implant duration (<2 years vs. >2 years). Of the CIED implanted for > 2 years, 32% (9/28) had turbulent flow in the SVC by Doppler, while no patients (0/7) with implant durations < 2 years demonstrated turbulent flow. Nine patients underwent subsequent lead extraction. A turbulent color pattern successfully identified all 3 patients that had significant fibrosis in the SVC found during extraction.

Conclusion: Our data suggests that assessing turbulent flow using color Doppler in the SVC may be a valuable noninvasive screening tool prior to lead extraction in predicting complex procedures.