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Deep vein thrombosis after right sided catheter ablation; more common then previously thought?

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Background: Right sided cardiac catheter ablation has become an indispensable tool to treat supraventricular cardiac dysrhythmias, with ablation of certain arrhythmias having cure rates over 90%. Due to this the frequency of these procedures is increasing annually and it is imperative we understand the incidence of all complication. One lesser studied complication is that of deep vein thrombosis (DVT), for which catheter ablation demonstrates all elements of Virchow's triad. As right sided ablations are carried out to treat troublesome palpitations, not to reduce mortality, it is important all risks are identified, especially those which are themselves potentially life threatening and can be modified.

Purpose:

To determine the incidence of DVT after right sided cardiac catheter ablation.

Methods:

We undertook a prospective multi-center study recruiting adult patients undergoing clinically indicated cardiac ablation for atrioventricular nodal re-entrant tachycardia and atrioventricular re-entrant tachycardia with right sided accessory pathway. Important exclusion criteria included patients on anticoagulation or antiplatelet therapy. Participants underwent bilateral compression venous duplex ultrasonography from the inferior vena cava to the popliteal vein to access for DVT at 24 hours and between 10 to 14 days post-procedure. The uncannulated contralateral leg acted as a control.

Result:

At interim analysis 71 participants had completed the study with average age 47 year (+/- 14), procedure duration 67 minutes, and with a female predominance. Seven patients developed acute DVT in either the femoral or internal iliac vein in the access leg. No thrombus was seen in the control leg. This gives an incidence of 10% (95% CI 4-19%) with p value of 0.023 on Chi-square testing.

Conclusion: We found a statistically significant proportion of patients undergoing right sided cardiac catheter ablation developed acute proximal DVT on ultrasound. All patients were treated with 3 to 6 months of anticoagulation therapy in accordance with NICE guidelines. These results suggest that DVT may occur at a high frequency then previously thought in this cohort and supports the consideration of peri-procedural prophylactic anticoagulation.

Abstract Figure. Acute thrombus in the femoral vein

