

IMAGES IN CARDIOLOGY

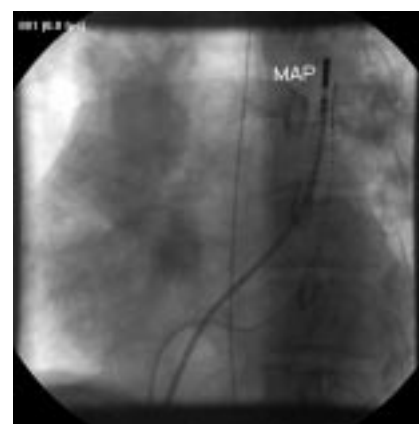
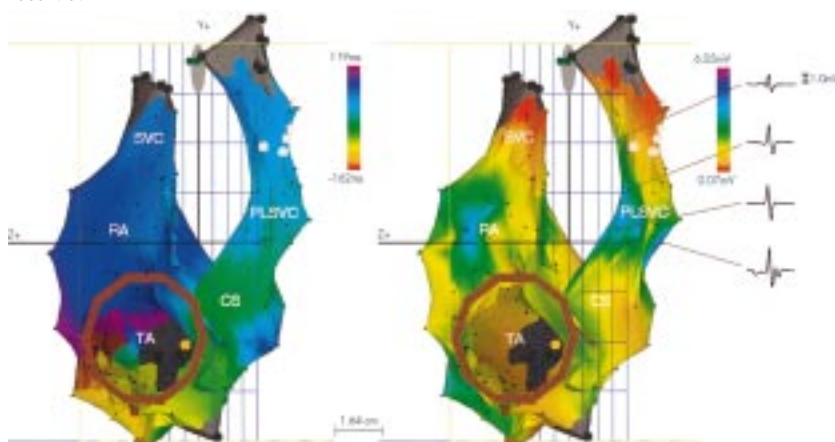
Existence of muscles surrounding the persistent left superior vena cava demonstrated by electroanatomic mapping

A 33 year old man was referred to our centre for radiofrequency catheter ablation for clinically documented atrial flutter. A persistent left superior vena cava (PLSVC) draining into a dilated coronary sinus was revealed during angiography. During tachycardia and thereafter in sinus rhythm, endocardial mapping of the right atrium and the PLSVC was performed by using electroanatomic mapping (CARTO, Biosense Webster Ltd, Tirat-HaCarmel, Israel). An isthmus dependent counterclockwise atrial flutter was defined as the mechanism of the tachycardia which was successfully ablated by radiofrequency ablation. Rapid spread of activation (speed 1.66 m/s) from right atrium to PLSVC during tachycardia was demonstrated in the activation map (below, left panel; LAO view; SVC, superior vena cava; RA, right atrium; TA, tricuspid annulus; CS, coronary sinus). Bipolar voltage map (right panel) showed distribution of potentials throughout the aberrant vein with the highest value of 6.05 mV recorded in

the mid sections of the structure. Pacing from multiple sites within PLSVC, even from positions beyond the cardiac silhouette (white points on both electroanatomic maps) captured the structure and activation propagated through the atria. LAO fluoroscopic view showed the highest site within PLSVC where capture could be achieved by pacing from mapping catheter (below right, MAP, mapping catheter).

This presentation demonstrates the existence of muscle fibres surrounding the PLSVC and highlights the possibility that the presence of surrounding muscle sleeves could be a general feature of most of the veins that enter the cardiac chambers.

J Dong
B Zrenner
C Schmitt
schmitt@dhm.mhn.de



Worm-shaped thrombus mimicking Chiari's network in a cocaine user

A 20 year old man, with a history of cocaine and amphetamine abuse, was admitted to the coronary care unit with mild exertional dyspnoea. His ECG and cardiac enzymes were normal. A transthoracic echocardiogram showed a dilated and hypokinetic left ventricle with a large sessile apical thrombus and the presence of a long and thin mass in the right atrium. The right ventricle was normal. A transoesophageal echocardiogram revealed a filiform, worm shaped type A thrombus (arrow) in the right atrium simulating Chiari's network, the Eustachian's valve embryonal residuum, floating freely in the cavity and coming from the inferior vena cava lumen. The patient was treated with a 10 mg intravenous bolus of recombinant tissue plasminogen activator (rt-PA) followed by a continuous infusion of 90 mg rt-PA over two hours. Following thrombolytic treatment the right atrial serpiginous thrombus and apical thrombus disappeared. The patient was discharged 10 days later in excellent general condition on oral anticoagulant treatment.

Chronic abuse of cocaine can induce endothelial alterations allowing thrombus formation. Serpiginous and mobile thrombus can simulate Chiari's network causing a difficult differential diagnosis.

G Iacobellis
M Puletti
A Vitarelli
gianluca.iaco@tin.it

