Indwelling catheter and vanishing intracardiac mass

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Figure 1. Transoesophageal image in the horizontal view showing a 'mass' attached to the catheter tip (see arrow).

A 36-year-old male was admitted for painful swelling of his right upper extremity. He had had an indwelling port-a-cath placed in his right subclavian vein eight months prior to admission. On admission the patient was afebrile and his vital signs were normal. His right upper extremity was swollen, erythematous and tender. Blood leucocyte count was normal and D-Dimer was elevated. Venous Doppler examination showed partial thrombosis of the distal right subclavian vein. Removal of the port-a-cath by interventional radiology was scheduled.

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Figure 2. Transoesophageal image in the horizontal view showing catheter image after thrombolysis. Note the disappearance of the 'mass' after thrombolytic therapy (see arrow). LA=left atrium, RA=right atrium, LV=left ventricle, RV=right ventricle.

The preliminary blood culture results were positive for gram-positive cocci in clusters and a trans-thoracic echocardiogram (TTE) was preformed to look for intracardiac vegetations. This showed mild concentric left ventricular hypertrophy, mild mitral and tricuspid regurgitation and a large mass close to the right atrial free wall. To further evaluate and characterise the intracardiac mass, a trans-oesophageal echocardiogram (TEE) was performed. This showed a 2 x 3 cm well-circumscribed mobile mass attached to the catheter tip. No valvular abnormality was noted. Final blood cultures showed coagulase-negative *Staphylococcus aureus* in only one of the two sets (only in anaerobic bottle) drawn on admission. As the patient remained afebrile and further blood cultures drawn remained negative, the initial positive blood culture most likely represented a contaminant and infective endocarditis was, therefore, considered unlikely. Plans for removal of the port-a-cath were delayed due to fear of dislodgement of the thrombus from the catheter tip. Other therapeutic options considered were conservative management with long-term anticoagulation and serial echocardiograms, surgical removal of the

mass and thrombolysis. In view of the high risk for pulmonary embolism, thrombolysis with intravenous tissue-plasminogen activator (tPA) was attempted and was successful. Post-thrombolysis TEE showed the catheter tip in the right atrium to be devoid of the 'mass' which had previously been noted. The port was subsequently removed surgically and patient was started on anticoagulation with coumadin.

Discussion

Echocardiography has been the mainstay in the evaluation of intracardiac masses. TEE has been found to be more sensitive than TTE in evaluating intracardiac masses.¹ Right heart thrombi result from direct extension of inferior vena cava or superior vena cava thrombosis, embolism from a distal deep vein thrombosis or associated with indwelling central venous catheters (PICC, Hickman, Ports).

Recommended treatment options for right heart thrombi include anticoagulation,² surgical thrombectomy or thrombolysis.³⁻⁶ A recent meta-analysis by Rose et al. shows better outcomes with thrombolysis (11.3% mortality) compared with surgery or heparin (23.8 and 28.6% respectively).⁷ Percutaneous intravascular techniques using a basket retrieval device to remove intra atrial thrombi have also been reported.² ■

References

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In this section a remarkable 'image' is presented and a short comment is given.

We invite you to send in images (in triplicate) with a short comment (one page at the most) to Bohn Stafleu van Loghum, PO Box 246, 3990 GA Houten, e-mail: l.jagers@bsl.nl.

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