

CTEPH NOT SCLERODERMA: USING OCT AS A TOOL FOR DIAGNOSIS IN PULMONARY HYPERTENSION

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Objective:

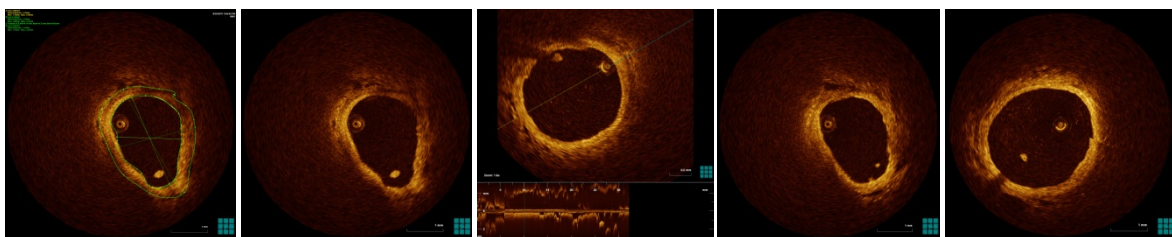
Chronic Thrombo Embolic Pulmonary Hypertension (CTEPH) is a recognised (but one of) several forms of Pulmonary Artery Hypertension (PAH). European Society of Cardiology (ESC) guidelines indicate that diagnosis and confirmation of such be made by utilising both VQ scanning, CTPA, as well as conventional pulmonary angiography. Our study showed that 22.22% of the 'labelled' Systemic Sclerosis (SSc) PAH cohort examined with Optical Coherence Tomography (OCT) were found to have evidence of thrombus, recanalised clots or webs, despite having normal VQ or low probability VQ and normal CTPA.

Methods:

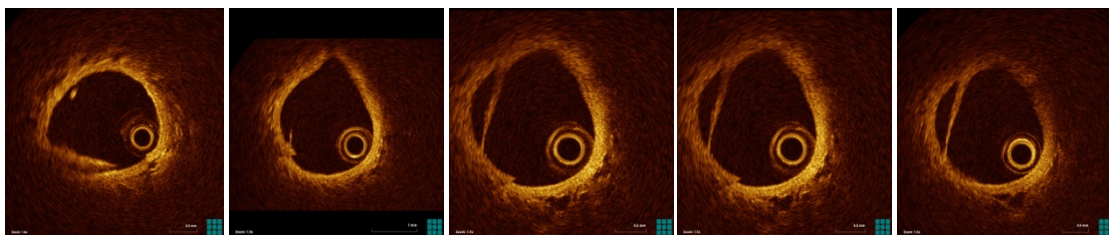
OCT was performed using a Light-Lab[®] image wire passed through a 6Fr Swan Ganz during standard Right Heart Catheterisation (RHC) whilst in a known Pulmonary Capillary Wedge position. This was verified through both haemodynamic wave form and angiographic evidence. Patients were heparinised and a mixture of 50/50 contrast and heparinised saline was injected through the catheter to facilitate blood clearance for imaging.

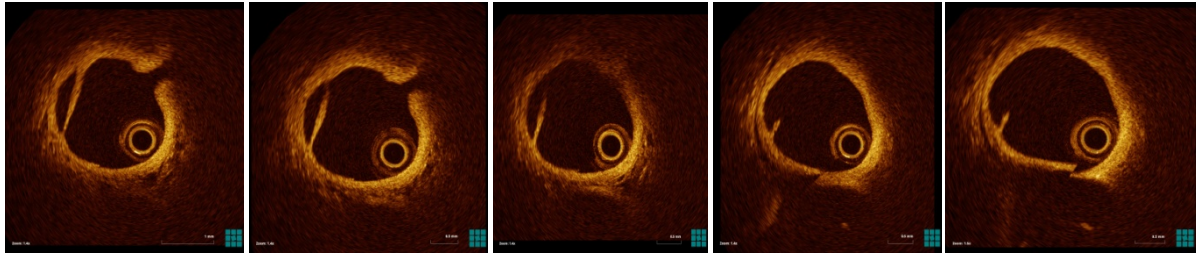
Results:

Patient 1. 75yo ♀ CTPA and VQ normal. mPAP 64mmHG

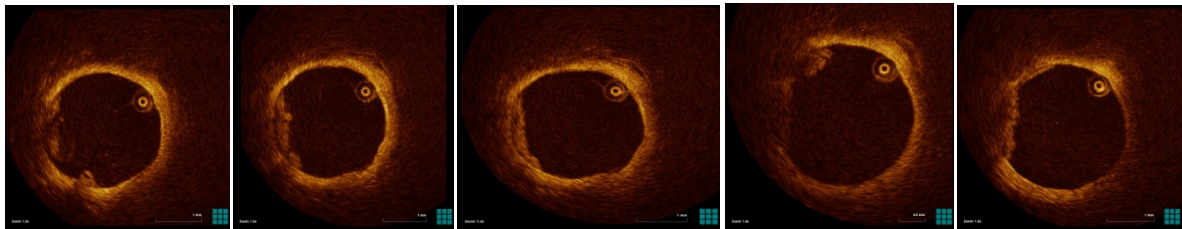
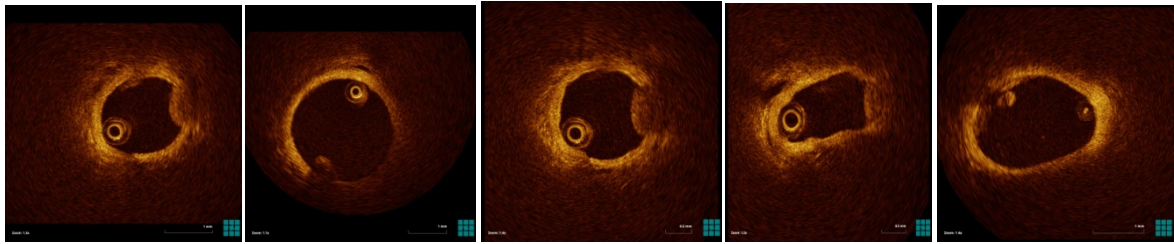


Patient 2. 56yo ♂ CTPA and VQ normal. mPAP 54mmHG



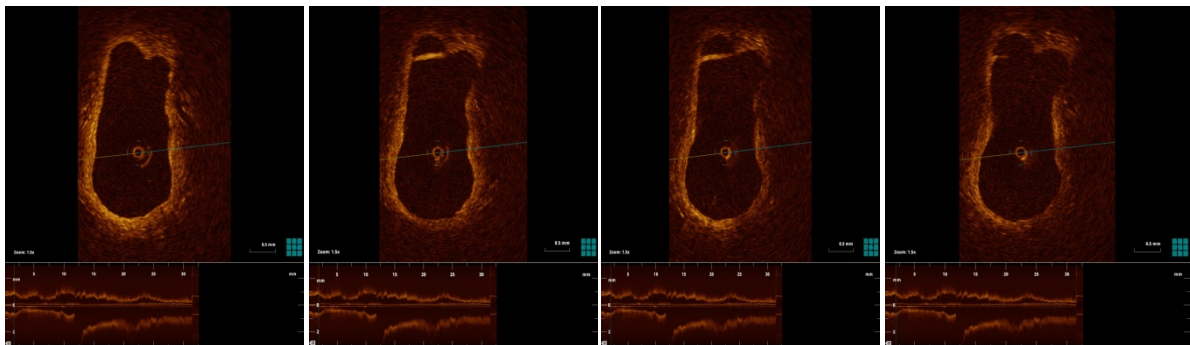


Patient 3. 63yo ♀ CTPA and VQ normal. mPAP 43mmHG



Patient 4. 74yo ♀ Initially diagnosed with systemic sclerosis associated PH. RHC PA mean 60mmHG. CTPA not requested due to renal issues. VQ not requested due to interstitial lung disease. Follow up RHC post therapy. PA mean 44mmHG.

OCT findings; 7 vessels imaged. (Average 1.5mm diameter). Multiple thrombus and webs found in right middle and lower lobes with low probability VQ (lung disease) with normal CTPA.



Conclusions:

Despite recommendations that VQ, CTPA and conventional angiography are utilised as diagnostic imaging tools, OCT has been found here to demonstrate that it also of value.

Further consideration of this technology could benefit clinicians with diagnosis and understanding of the disease.