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517 RIGHT ATRIAL THROMBUS IN A PATIENT WITH CARDIAC AMYLOIDOSIS: A MULTIMODALITY IMAGING APPROACH

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Case Presentation: A 47-year-old man was referred to our outpatient clinic for dyspnea and chest pain. His past medical history was remarkable for an admission of acute congestive heart failure, occurred two weeks before presentation. On that occasion, the patient was discharged after a few days of diuretic therapy.
Diagnostic Workup: at presentation, the patient was symptomatic for dyspnea with signs of systemic congestion. The ECG showed sinus rhythm, inferolateral negative T waves and absent progression of R wave in precordial leads. Transthoracic echocardiography revealed markedly thickened left ventricular (LV) walls (maximum interventricular septum dimension 19 mm) with a granular-sparkling appearance of the myocardium, bi-atrial enlargement, preserved LV ejection fraction, restrictive mitral flow pattern thickened interatrial septum and atrio-ventricular valves. No significant valvular regurgitations were detected. Global LV longitudinal strain was significantly reduced (-9.4%), with relative apical sparing. Given the high suspicion for infiltrative disease we performed further investigations. The cardiac computed tomography (CCT) excluded significant coronary artery disease, but it raised the suspicion of a thrombus at the level of the right atrial appendage, that was confirmed by a transesophageal echocardiography showing a mobile round mass of 14×12 mm. Finally, tissue characterization by cardiac magnetic resonance exhibit a diffuse myocardial delayed enhancement, with a dark blood pool and, an increase in extracellular volume and T1 mapping values (1266.3 ms). Laboratory tests showed increased levels of creatinine, BNP and, lambda light chains. Bone scintigraphy imaging didn't identify any uptake of radiotracers at myocardial level. These findings were suggestive for cardiac light-chain (AL) amyloidosis. Accordingly, a treatment with warfarin, beta-blockers, steroid, and diuretics was initiated.

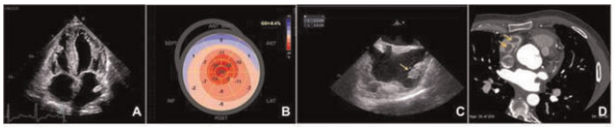

Figure 1. A) TTE, apical 4-ch view; B) GLS with "apical sparing pattern"; C) and D) visualization of the thrombus (yellow arrows) in right atrial appendage, in bi-caval view by ETE and by CCT.

Conclusions: cardiac amyloidosis is an infiltrative disease characterized by the deposition of aggregates of amyloid fibrils in the myocardium. Multimodality imaging is pivotal to determine the diagnosis, assess the potential complications, and stratify the patients' prognosis. Our case demonstrates that cardiac AL amyloidosis is associated with an increased thromboembolic risk, irrespective of the presence of atrial fibrillation. Moreover, although the left atrial appendage is most frequently the site of thrombus formation, it is advised to look for them also in uncommon sites as the right atrial appendage.