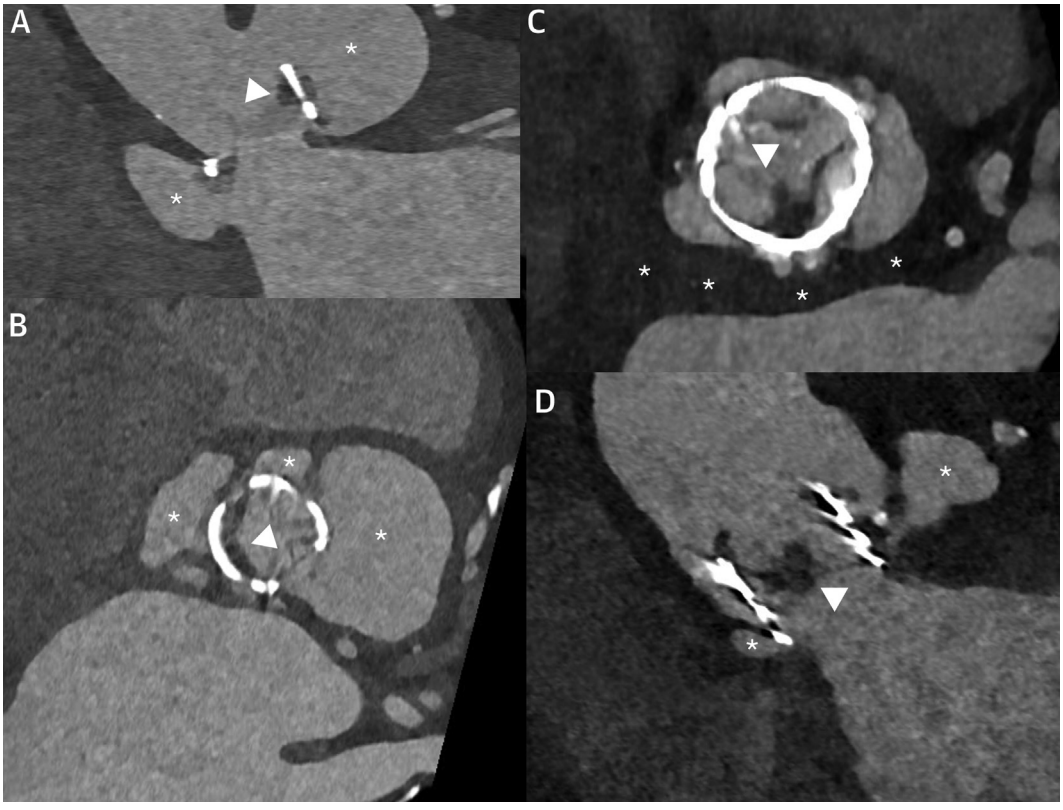
FIGURE 9 Endocarditis



PHV in the aortic position (A,B) with vegetation on the valve leaflets (arrowheads in A and B) and large mycotic aneurysms (asterixis in A and B). Prosthetic valve in the aortic position (C) with infectious thickening of the fibrous continuity of the mitral and aortic valve (asterixes in C) and both leaflet calcification (arrowhead in C) as well as vegetation on the valve leaflets. Transcatheter valve in the aortic position with large vegetation (arrowhead in D) and mycotic aneurysms (asterixes in D).

shadowing that limits assessment. With CTA, iodinated contrast allows for a clear distinction between abscess and pseudoaneurysm. In addition, CT provides a more complete field-of-view of the structures of interest, whereas intervening bone or air may preclude adequate assessment with echocardiography.

12.2. PET-CT in PVE

For detecting invasive complications of PVE, 18F-FDG PET-CT has demonstrated good diagnostic accuracy.[15,86,87] Accuracy improves with appropriate preparation to suppress normal myocardial glucose utilization,.[88,89] Patients with PVE are more likely to have focal and heterogenous increased paravalvular 18 F-FDG signal, and a quantitative assessment of uptake may also aid in the diagnosis.[15,90] PET-CT can enhance the diagnostic work-up, but has a limited role in pre-operative planning, with CTA remaining the better image modality for this.

In difficult cases, the decision to pursue a cardiovascular CTA and/or PET-CT for PVE depends on local expertise and discussion with a multidisciplinary endocarditis team.[88] A practical consideration is whether the patient can safely receive iodinated contrast. If so, CTA may better delineate relevant anatomy. When there is an inability to give iodinated contrast and there is diagnostic uncertainty after a clinical evaluation and echocardiography, PET-CT may be more informative. Fusion of the CTA images with the PET allows for optimal co-registration of the areas with increased FDG uptake and anatomical changes.[88]

12.3. Additional CT findings

CT can also help define extra-cardiac manifestations of PVE.[82] In right-sided endocarditis, septic pulmonary emboli are a common complication. With left-sided disease, the most feared extra-cardiac manifestations include central nervous system emboli and resultant mycotic aneurysms, and infectious vasculitis. Septic emboli with occlusion of visceral or peripheral arteries can occur as well. Finally, when needed, an endocarditis-