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Incidental Ostial Band of the Left Main Coronary Artery

MULTIMODALITY
MUSEUM IMAGE

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ABSTRACT

We report an incidental ostial band of the left main coronary artery (LMCA), identified on coronary computed tomography angiography. A thin, linear, noncalcified band was noted within the left coronary sinus, adjacent to the LMCA ostium, confirmed on multiplanar and virtual dissection images, with no associated luminal narrowing. Such bands are exceedingly rare congenital variants, distinct from ostial ridges or atherosclerotic lesions, and may closely mimic a focal dissection flap. This case highlights the importance of recognizing this subtle entity and the value of high-resolution noninvasive imaging in its accurate characterization.

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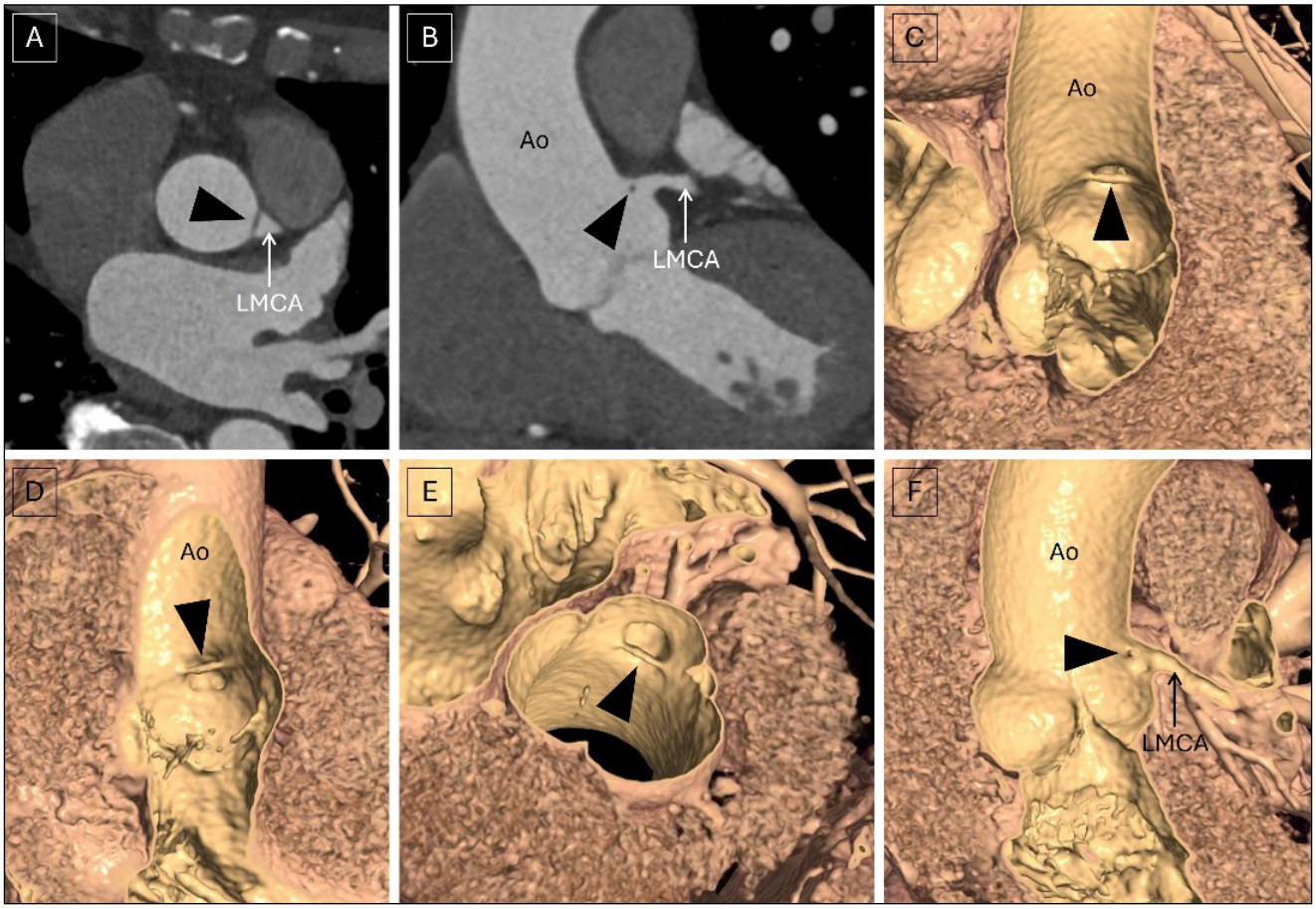


Figure 1 (A, B) Oblique axial and oblique coronal images show a thin, linear, noncalcified soft-tissue density band (arrowhead) in the left coronary sinus adjacent to the LMCA ostium. **(C-F)** Virtual dissection images confirm the presence of the ostial band (arrowhead) in multiple views, excluding an artifact and differentiating it from a focal dissection flap. Ao: aorta; LMCA: left main coronary artery

A 64-year-old gentleman presented with atypical chest pain for the past 3 months. He underwent a screening transthoracic echocardiography, which was unremarkable. Subsequently, a coronary computed tomography angiogram (CCTA) was performed to exclude a coronary etiology for chest pain.

CCTA showed a normal origin of the left main coronary artery (LMCA) from the left coronary sinus. Incidentally, a linear, noncalcified, soft-tissue density band (approximately 1 mm in thickness) was noted within the left coronary sinus, adjacent to the ostium of the LMCA. This finding was confirmed on various multiplanar reconstructions and endoluminal views, thereby excluding an artifact and differentiating it from a focal aortic dissection flap (Figure 1). There was no associated luminal narrowing of the LMCA, and distal flow appeared preserved.

Ostial bands of the LMCA are exceedingly rare. These lesions are distinct from ostial ridges, membranous stenoses, or atherosclerotic lesions. While the literature on this is limited, these bands could possibly represent embryological remnants of the truncus arteriosus septation or acquired fibrous tissue in response to chronic mechanical stress. Allen et al. described a similar supra-aortic valve tendon within the right coronary sinus, situated away from the right coronary artery origin.[1] While the bands are often hemodynamically insignificant, they may theoretically give rise to dynamic obstruction, predispose to endothelial injury, or complicate catheter engagement during coronary intervention. Particular care must be exercised to distinguish this entity from a focal dissection flap, which it closely mimics.[1,2] The management of such bands remains poorly defined in the literature owing to their rarity. The incidental detection of an LMCA ostial band on CCTA underscores the value of high-resolution noninvasive imaging in identifying subtle anatomical variants.

COMPETING INTERESTS

The authors have no competing interests to declare.

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