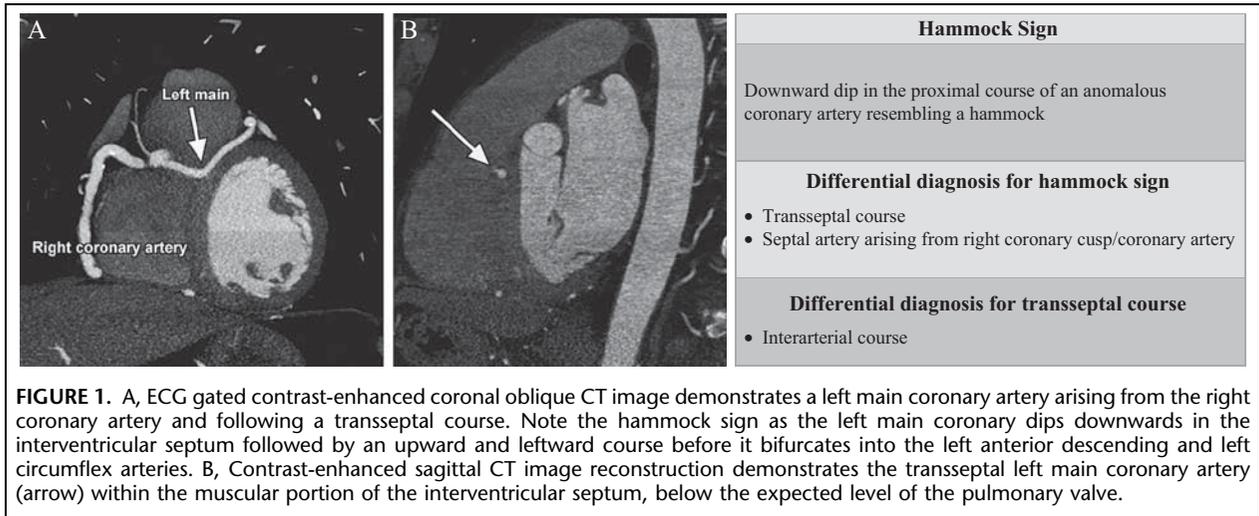


Hammock Sign

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Appearance: The hammock sign, which was first described on conventional catheter angiography, refers to the “downward dip” that an anomalous coronary artery with a transeptal course makes as it traverses below the level of pulmonic valve in the septal myocardium (Fig. 1A).^{1,2} (All references cited in this article can be found at <http://links.lww.com/JTI/A53>.) With anomalous transeptal course, the coronary artery (left main or left anterior descending artery) arises from the contralateral artery or cusp, courses downward and forward in the interventricular septum followed by an upward and leftward course as it emerges out in the anterior interventricular groove. This forms a “caudal anterior loop”^{1,2} resembling a hammock, hence the term “hammock sign.”

Explanation: The hammock sign enables identification of the transeptal course and differentiation from other coronary anomalies, particularly an interarterial course. The basis of this sign is the anatomic relationship between the aortic root and pulmonic valve with the latter normally located slightly superior to the aortic root. In interarterial course, since the anomalous artery courses between the aorta and pulmonary artery at the level of pulmonic valve, the downward dip seen in the hammock sign is unusual. In fact, an interarterial course is associated with a “cranial posterior loop” on angiography.^{1,2}

Discussion: Transeptal and interarterial course of the coronary artery can be difficult to differentiate. This distinction is, however, clinically important and influences management³ because of the risk of sudden cardiac death associated with an interarterial course.^{3,4} Hence, patients with interarterial course are often surgically treated, particularly if they are symptomatic or have myocardial ischemia.^{3,4} In contrast, patients with transeptal course typically have a benign course and surgery is usually not a consideration.^{3,4}

The hammock sign is a useful imaging feature that helps in this differentiation. Though first described on conventional angiography, it is a useful sign on coronary CT and MR angiography, which are now being increasingly used for detection of coronary anomalies. The sign may not be as readily apparent on axial CT or MR images and is best depicted on coronal oblique reformats as shown in Figure 1A. An additional CT feature favoring a transeptal course is the presence of septal myocardium surrounding the coronary artery in a short axis plane in contrast to epicardial fat surrounding an interarterial coronary artery. The sagittal plane is also useful for depicting the location of the transeptal coronary artery below the level of pulmonic valve plane (Fig. 1B). Additionally, evaluation of the orifice and proximal coronary segment usually displays a patent, round orifice³ in cases of a transeptal coronary artery. In contrast, an interarterial course may show a slitlike orifice and intramural (artery coursing within the aortic wall) segment.

In addition to the transeptal course, the caudal anterior loop of the hammock sign can also be seen with a septal artery arising from the right aortic sinus/coronary artery.¹ However, a septal artery arising from right aortic sinus terminates in the septum and does not extend into the anterior interventricular groove as expected for a transeptal left main or left anterior descending artery.

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