

Aorta Ultrasound

More Information: Anatomy of the Abdominal Aorta

The aorta, the largest artery in the body, is an elastic artery that consists of three muscle layers: the intima, media and adventitia. The aorta enters the abdomen at the level of the aortic hiatus at T12, descends anterior to the lumbar vertebrae immediately left of midline, and tapers distally. The relationship of the abdominal aorta to the lumbar vertebrae is an important sonographic landmark that will be discussed in the scanning section.

The normal diameter of the infrarenal abdominal aorta varies with both age and gender. In young healthy individuals, the normal infrarenal aorta ranges in diameter from 17 mm to 24 mm.¹⁻³ Elderly males without abdominal aneurysms in one study were found to have an average luminal diameter of 28 mm.⁴

The first sonographically visualized branch in the abdomen is the celiac axis (see image on page 2). The celiac axis comes off the anterior aspect of the aorta and gives rise to the hepatic, splenic and left gastric arteries. The superior mesenteric artery (SMA) is the next visualized branch. It comes off of the anterior aspect of the aorta at the L1 level posterior to the body of the pancreas and travels with the superior mesenteric vein (SMV) in a caudal direction. The renal arteries come off of the lateral walls of the aorta within 1.5 cm of the SMA takeoff.⁵

The aorta bifurcates at the level of the umbilicus (L4 level) to form the common iliac arteries. The common iliac arteries subsequently bifurcate into the internal and external iliac arteries.

References:

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