

KINKING SYNDROME OF THE ABDOMINAL AORTA: CASE PRESENTATION

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Introduction: Abdominal aortic kinking syndrome is a rare congenital malformation characterized by angulation of the abdominal aorta (AA), which, depending on the degree of inflection, can alter the origin and trajectory of its branches, including the renal arteries, causing blood flow disorders. The diagnosis of abdominal aortic kinking syndrome is based on imaging studies that provide accurate data on the morphofunctional appearance of the aorta and its branches. Purpose: Case presentation of abdominal aortic kinking syndrome involving the renal arteries.

Materials and methods: A 45-year-old patient diagnosed with arterial hypertension underwent abdominal aortic angiography at CDM ScanExpert, Chisinau, Republic of Moldova, to determine the cause, which revealed kinking syndrome.

Results: On the imaging sequences obtained following AA CT angiography, two curves of the abdominal segment of the aorta were identified: the first located at the middle of the L3 vertebra; the second at the AA bifurcation (upper edge of the L5 vertebra). At the same time, bilateral accessory renal arteries were identified. The origin of the left renal artery (LRA) was determined at the middle of L2, and that of the accessory LRA (originating from the AA) at the lower edge of L2. This supernumerary artery crossed the LRA in an ascending trajectory and entered the renal parenchyma of the upper pole. The right renal artery (RRA), originating from the AA at the lower edge of L2, had a sinuous ascending trajectory caused by the first curvature of the AA, thus corresponding to the lower edge of L1 at the renal hilum. The accessory ARD started from the AA slightly below the main renal artery, described a trajectory parallel to it, and penetrated the kidney in the same way through the hilum. Morphometric: the length of the ARS was 39 mm, the diameter was 5 mm; the length of the accessory ARS was 65 mm, diameter – 2.6 mm; the length of the ARD was 25 mm (due to the convexity of the aorta), its diameter – 4 mm; the length of the accessory ARD was 33 mm and its diameter – 3 mm.

Conclusions: One of the causes of hypertension may be angulation of the abdominal aorta, sinuous course of the renal arteries, presence of accessory renal arteries that intersect and compress the main renal arteries. Imaging methods such as Doppler sonography and CT angiography are considered the "gold standard" in identifying kinking syndrome.

Keywords: kinking syndrome, abdominal aorta, renal artery