

## An anatomico-radiological study of the renal segments

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An increasing number of observations call the general scheme of five renal segments into question, with anatomists, radiologists and surgeons that have reported discrepancies between Graves's scheme and morphological observations. The aims of the present study was to analyse the arterial vascular anatomy with reference to the renal segments. 15 kidneys were injected with acrylic resins to obtain vascular corrosion casts that were analyzed also with computed tomography. A mean number of 6,1 (range 4-8) avascular fissures were found, determining the presence of a mean number of 7,1 segments (range 5-9). The apical and posterior segments were in all the cases single. In the superior and middle territory there was a single segment in 6 cases (40%) and two segments in 9 cases (60%). In the inferior territory there was a single segment in 1 case (6,7%), two segments in 12 cases (80%), and three segments in 2 cases (13,3%). The renal arterial vasculature cannot be schematized according to the classical Graves classification because the majority of the evaluated cases showed a different number of segments. The presence of the fissures in the virtual vascular casts is a useful tool to identify the boundary between the vascular territories.

### Keywords

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Renal segments, Arterial vascular anatomy, Vascular corrosion casts, Computed tomography