An 89-year-old woman was admitted for acute left-sided back pain and oliguric acute renal failure. Contrast-enhanced computed tomography of the abdomen demonstrated reduced perfusion of the hypotrophic right kidney (7.5 cm) due to severe stenosis of the right renal artery. There was no uptake of contrast in the left kidney (measuring 9.8 cm) caused by (acute) occlusion of the left renal artery due to a thrombus mass bulging into the aorta (Panels A and B; arrows). Intra-arterial thrombolytic therapy or stent placement was not possible, because the origin of the left renal artery was not visible. Reconstructive vascular surgery was not performed because of severe atherosclerotic disease of aorta and renal artery and patient’s poor performance status. After the start of haemodialysis, patient’s symptoms improved. However, haemodialysis was stopped after 14 days, according to patient’s wish, because of a dramatic decline in the perceived quality of life status. Two weeks later she died. Autopsy confirmed our pre-mortal diagnosis. Macroscopic examination showed a thrombus mass in the left renal artery, which bulged into the aorta and was superimposed on an atherosclerotic plaque (Panels C and D; arrows). The thrombus was probably formed by rupture of this plaque. More than 70% of the left kidney had a pale appearance consistent with recent infarction. Microscopy of the left kidney showed extensive necrosis of the involved area (Panel E; note the clear demarcation between necrotic tissue (left side) and remaining vital tissue (right side)) due to acute ischaemia caused by the propagated thrombus in the left renal artery (Panel F). Histological examination of the hypotrophic right kidney showed extensive fibrosis with some atrophied tubuli filled with proteineous material (arrowheads) (Panel G).

Here, we describe, in a single patient, acute renal failure due to the combination of a hypotrophic kidney with severely reduced function due to chronic renal artery disease on one side and acute renal artery thrombosis on the other side leading to renal infarction.

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