Giant clear cell renal carcinoma extended from the kidney until the pulmonary artery

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This is the case of a 57-year-old man with normocytic anaemia of 1 year of evolution and without cardiovascular risk factors. He presented in the outpatient clinic with severe asthenia, anorexia, weight loss, and abdominal pain in the left flank. The physical examination revealed a painful mass located in the left flank.

Computed tomography showed an 8.5-cm diameter solid mass in the left kidney with extension through the left renal vein, inferior cava vein, right atrium, and right ventricle. A transoesophageal echocardiogram revealed tumour extension through the inferior cava vein (Panel 1 A, white arrow), right atrium and right ventricle until the pulmonary artery (Panel 1 B, white arrows). The mass provoked mild pulmonary functional stenosis (Panel 1 C).

The patient underwent surgery completed under cardiopulmonary bypass and circulatory arrest (Panel 1 D). He was treated simultaneously by the extraction of the tumour extension with 240 mm (Panel 1 E) and left radical nephrectomy. The post-operative course was uneventful. Pathology revealed a clear cell renal carcinoma with tumour thrombus.

In conclusion, we present a case of clear cell renal carcinoma with intravascular extension from the left renal vein until the pulmonary artery beyond the valvular plane provoking mild pulmonary stenosis. The tumour removal surgery under extracorporeal circulation associated with left radical nephrectomy was successful (Panels 1 D and E).