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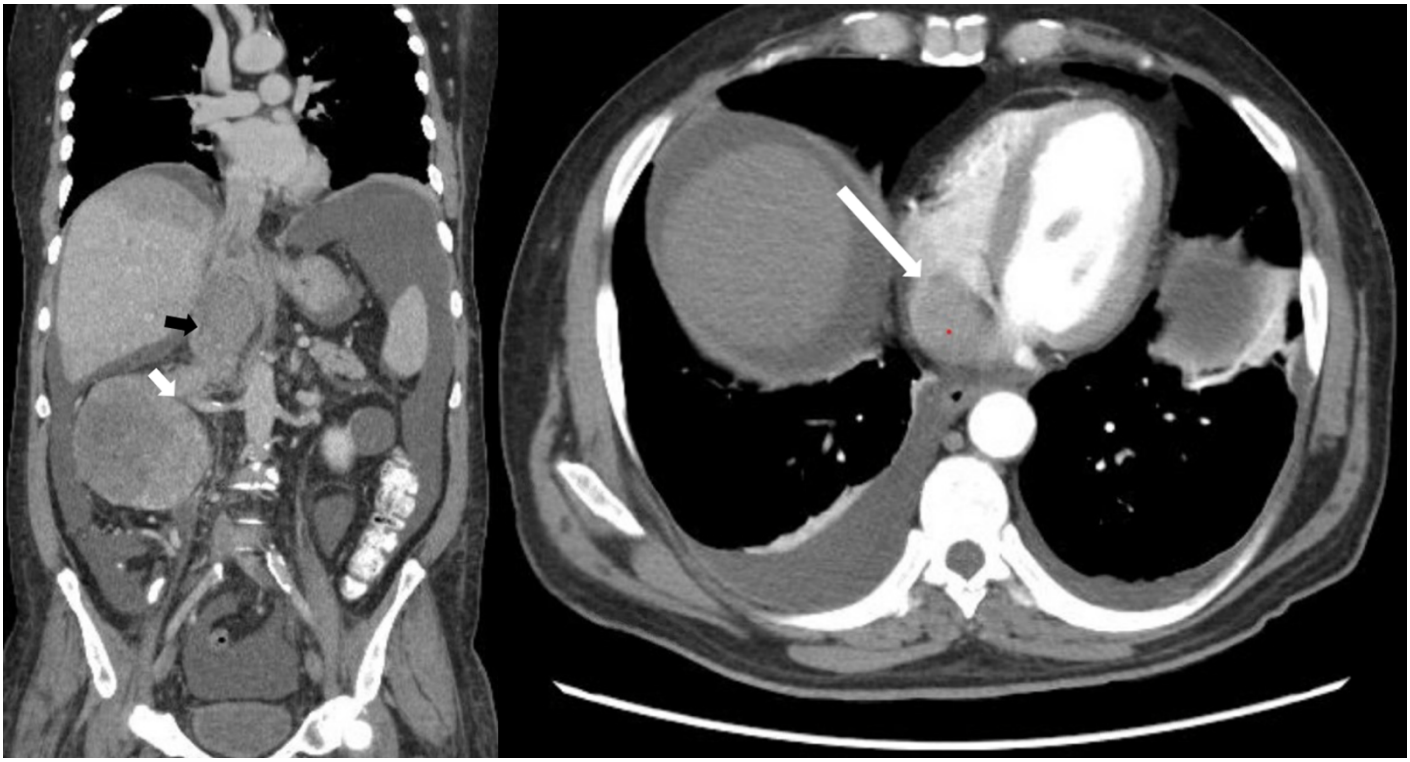

A 63-year-old man with known type 2 diabetes mellitus, hypertension, and dyslipidemia was referred to us from another hospital due to a right renal mass with inferior vena cava (IVC) extension. Three months prior, the patient had complained of epigastric abdominal pain, severe constipation and back pain, with decreased appetite. He did not, however, have haematuria. Full labs, computed tomography of the chest, abdomen, and pelvis (CT CAP), and a bone scan were performed on the patient. Imaging revealed a 10.3 x 8.1 x 10 cm exophytic right renal mass, likely clear renal cell carcinoma, with right renal vein extension (white arrow). The suggested CT staging was T3bN0M0, with no bone metastasis, but a tumour thrombus was seen in the suprahepatic IVC and right atrium. The IVC is completely thrombosed, with tumour thrombus proximally and bland thrombus distally (black arrow). The tumour thrombus extending to the right atrium of the heart in a cross-sectional CT scan (long arrow). The patient was started on pain medications and enoxaparin 80 mg twice daily, but was later switched to heparin due to ineffectiveness of the former treatments. Later, the patient developed shock, severe metabolic acidosis, and hepatic and renal failure. He died as a result of the tumour and the severe IVC thrombosis, which could not be removed surgically.

Renal cell carcinoma has a predilection for vascular metastasis, resulting in tumour thrombus (TT) in the IVC in 10% of cases. In a small percentage, the TT progresses from the IVC to the right atrium (RA), causing cardiac metastasis [1]. At the time of diagnosis, around 30% of patients with renal cancer may have metastases [2], of which the lungs, bone, soft tissues, liver, and central nervous system are the most common sites [2].

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Although RCC is for infiltrating the renal vein and causing thrombosis of the vena cava or even the right atrium, cardiac metastasis has only been observed infrequently. Therefore, arrhythmias or symptoms of heart failure in a patient with a metastatic who has no history of previous heart issues may reflect metastatic involvement of the heart [3]. While most patients with cardiac involvement are asymptomatic, hypertension is the most prevalent cardiac manifestation of renal cell carcinoma, affecting 20% to 37.5% of patients. Shortness of breath, cough, arrhythmia, chest discomfort, and peripheral are further cardiac manifestations [4]. Surgical resection can help relieve the symptoms of isolated cardiac metastases [4]. The five-year survival for RCC with IVC TT is between 32% and 69% [5].

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