Adrenocortical carcinoma with inferior vena cava tumour thrombus: multidetector CT (MDCT) evaluation and management

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DESCRIPTION

A 58-year-old man, a farmer, who was a known hypertensive poorly controlled on metoprolol, amlodipine and enalapril, presented with sweating and giddiness for 10 months and pedal oedema for 3 months. On ultrasonography, a heteroechoic mass was found near the upper pole of his left kidney. Multidetector CT of the abdomen showed an 11×8×5 cm heterogeneous mass arising from the left adrenal gland, with an attenuation of 28 HU on non-contrast CT and 35% absolute washout on delayed film. The venous thrombus extended from left adrenal vein into the infradiaphragmatic inferior vena cava (IVC), extending 2.5 cm above the hepatic vein confluence (figures 1 and 2). Urinary normetanephrines were 889 µg/24 h, urinary metanephrine was 107 µg/24 h and serum cortisol level was 800 nmol/L. The patient underwent left open adrenalectomy with IVC thrombectomy. At 2-year follow-up, he was normotensive without any signs of residual/recurrent disease.

Adrenocortical carcinoma is infrequently associated with venous tumour thrombus (2.9%).¹ Venous involvement occurs earlier in right-sided tumours due to the renal vein on the left side. CT washout studies are the gold standard for differentiating adenoma from carcinoma, the former suggested by absolute percentage washout >60% or relative percentage washout >40%. Hypersecretion of adrenal hormones is found in 50–80% of patients, the most common being cortisol. Catecholamines are typically normal, although false elevation is seen with use of β-blockers to control hypertension.²

Figure 2 Coronal section of post-contrast CT scan showing the venous thrombus extending up to the infradiaphragmatic inferior vena cava.

With IVC tumour thrombus, survival is 25% at 5 years in absence of metastatic disease and only 20% at 2 years in presence of metastasis.³

Learning points

- ▶ Adrenocortical carcinoma is a rare cause of inferior vena cava (IVC) tumour thrombus.
- ▶ Management of IVC tumour thrombus is similar to that for renal cell carcinoma.
- ▶ Despite aggressive surgical efforts, prognosis is dismal.

Figure 1 Post-contrast axial CT scan showing enhancing left adrenal mass with thrombus in the left renal vein extending into the inferior vena cava.

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Competing interests None declared.

Patient consent Obtained.

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