
CARDIOVASCULAR FLASHLIGHT

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Innominate artery pleomorphic sarcoma imaged with cardiovascular magnetic resonance and Positron Emission Tomography-Computed Tomography

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A 75-year-old man presented with a right brachial arterial embolus. Following embolectomy, histology of the embolus revealed sarcomatoid carcinoma and a subsequent Positron Emission Tomography-Computed Tomography scan showed increased tracer uptake in the innominate artery (Panel A). Cardiovascular magnetic resonance (CMR) demonstrated a moderate sized elongated mass in the proximal innominate artery measuring 29 × 9 m. A T2-weighted BLADE sequence (Siemens proprietary term) was used, acquired over 2 min with free-breathing diaphragmatic navigator gating (Panel B, oblique coronal plane). This demonstrated the mass more clearly, in addition to high T2-weighted signal (unusual for thrombus), though with some heterogeneity. Post-gadolinium imaging revealed little uptake on early or late imaging.

Shortly following his CMR scan, he developed symptoms consistent with a stroke and a CT scan confirmed a right cerebellar infarct. A staging CT did not demonstrate any metastatic spread and he underwent excision of the origin and proximal section of the innominate artery, which contained a pedunculated, gelatinous, and fibrinous mass. The superior aspect of the aortic arch and innominate artery were reconstructed with a Dacron patch and conduit. Histology of the resected tumour confirmed high grade pleomorphic sarcoma. He subsequently underwent Intensity-Modulated Radiotherapy to the affected region (Panel C—Intensity-Modulated Radiotherapy planning image).

The patient made a good recovery and returned for a CMR scan 3 months later. T2 BLADE imaging revealed no residual mass and a patent innominate artery (Panel D) at both time points.