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## Accidental intra-arterial injection of contrast of intracranial CTA

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Intracranial Computed Tomography Angiography (CTA) is widely used for evaluation of intracranial vascular disease. Intra-venous contrast is used. Accidental intra-arterial injection of contrast is rare and results in odd imaging outcome. A 48 year old man presented with incoherent and was unable to stand without assistance. CT brain showed acute left parieto-temporal lobe intra-parenchymal haematoma. And subsequent CTA showed an Arteriovenous Malformation (AVM) in left temporal region as the culprit lesion. The patient underwent left temporal AVM resection, clot evacuation and cranioplasty. The first post-surgical CTA was done 1 day after surgery with the contrast injected via a left cubital intra-venous plug. The coverage was from vertex to skull base. On arterial phase, there was enhancement of the left distal vertebral artery, left cerebellum, basilar artery, bilateral Posterior Cerebral Arteries (PCA) and bilateral posterior cerebral circulation with no contrast in bilateral anterior and middle circulations and very little contrast in right cerebellum. The radiographer said that the backflow was very strong when connecting the injector to the left cubital intra-venous plug. Deduction of intra-arterial injection of contrast was made. The contrast refluxed via the left subclavian artery into the left vertebral artery, which caused the effect of selective left vertebral angiogram on arterial phase. The ward doctor checked the plug, which occluded already and was removed. A new intra-venous plug was inserted and tested and another CTA was done 6 hours later. Expected opacification of the anterior, middle and posterior cerebral arteries was achieved on arterial phase. This case illustrates the imaging outcome of an intracranial CTA with accidental intra-arterial injection of contrast. Although this situation is rare, good knowledge of anatomy is required to deduce the cause and whole process. Intra-venous plug must always be checked carefully before injection of contrast.

### Biography

Zhang Han is a Radiology Trainee in Singapore, Medical Doctor and Fellow of Royal College of Radiology (FRCR). He has special interest in neuroradiology and likes to collect rare but clinically significant radiology cases.

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