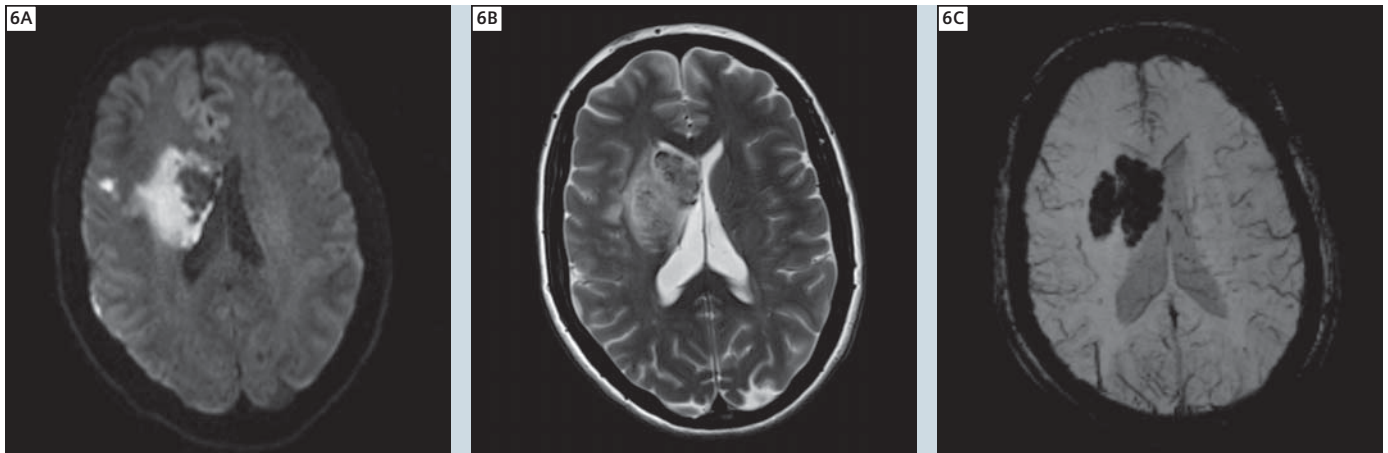


Case 6: Haemorrhagic component of MCA infarction



6 All images acquired at 3 Tesla. A) DWI B) T2w TSE C) syngo SWI

Patient history

A 48-year-old female presented to our emergency department with sudden onset of left face, arm and leg weakness. CT brain was reported as right middle cerebellar artery infarction. MRI was performed to confirm this finding.

Sequence details

Pre- and post contrast volume T1, axial FSE T2, FLAIR, syngo SWI, DWI images of the whole brain and 3D TOF MRA circle of Willis.

Imaging findings

Abnormal signal was seen within the right caudate head and lentiform nucleus with significant susceptibility artefact within these structures that was most consistent with the presence of blood products. The pathology is contained within the middle cerebral artery distribution and appearances on syngo SWI are most consistent with a cerebral infarction with haemorrhagic transformation.

Discussion

The SWI sequence demonstrated the full extent of the haemorrhagic component of the infarction better than any of the routine sequences. The presence of haemorrhage with stroke is important to demonstrate as it changes treatment options.

Case study discussion

syngo SWI has allowed smaller susceptibility lesions to be demonstrated than previously possible, in cases of vascular malformation, tumor, stroke, trauma and dementia.

In many cases cited in the literature, SWI was the only imaging sequence to show the abnormality due to its increased sensitivity to iron content. In all 6 of our cases the SWI sequence demonstrated increased detail of the pathology compared with the routine imaging sequences. In cases 2, 4 and 5, some lesions appeared to be too small to see on other imaging sequences, indicating how the sensitivity of syngo SWI may benefit diagnosis. The increased signal and susceptibility effects at 3T enhance the use of syngo SWI, allowing full brain coverage in a short amount of time.

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