
Synthetic MRI in Subarachnoid Haemorrhage



A newly published study evaluated the reliability of synthetic magnetic resonance imaging (SyMRI) for detecting complications associated with subarachnoid haemorrhage (SAH), such as ischaemic lesions, hydrocephalus, or bleeding complications.

Researchers compared results from twenty patients with SAH, who underwent a conventional brain MRI and a SyMRI on a 3T MRI machine.

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Key Findings

- **SyMRI detected intracranial complications of SAH similarly to conventional MRI.**
- **SyMRI acquisitions have quality metrics comparable to conventional MRI.**
- **SyMRI acquisition time is shorter compared to conventional MRI.**

The two techniques performed well in detecting ischaemic lesions and extra-axial collections ($\kappa = 0.80$ and 0.88 respectively) and were good for the detection of hydrocephalus ($\kappa = 0.69$). No significant differences were detected in the number of ischaemic lesions ($p=0.31$) or in the Evans index ($p=0.11$).

The WMv and CSFv measures were also similar ($p=0.18$ and $p=0.94$, respectively), as well as the volume of ischaemic lesions ($p=0.79$). The SyMRI acquisition time was shorter compared to conventional MRI regardless of the number of sections (32% and 6% time reduction for 4 or 3 mm section thickness, respectively).

Study results were published in *Clinical Radiology* June 27, 2021.

Source: [Clinical Radiology](#)

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