

## Synthetic MRI in Subarachnoid Haemorrhage



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**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.

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