Cerebrovascular findings on MRI compared to medical history in patients with cyanotic congenital heart disease

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Background:
Patients with cyanotic congenital heart disease (CCHD) are known with an increased risk of thrombosis, especially cerebrovascular events. CCHD patients can present with various neurological symptoms due to hyperviscosity, why it can be difficult to differentiate whether the patient has thrombosis or not.
Therefore the aim of this study was to examine with MRI the incidence of cerebrovascular events in CCHD patients. Furthermore to examine whether clinical reported events were similar to the MRI findings.

Methods:
In a prospective study 72 clinical stable CCHD patients were examined with MRI. The radiological findings were compared with medical information and a medical questionnaire, in order to obtain all previously relevant medical history.

Results:
MRI revealed that 34 (47%) of the 72 patients had had a cerebrovascular event, and that more than one cerebral infarction was seen in 25% of the patients. According to medical history only 22% of these patients had a history of stroke. Furthermore only 58% of the patients with a medical history of stroke had an infarction on MRI.

Conclusion:
Patients with CCHD seems to have a higher prevalence of cerebrovascular events than previously reported/assumed. In order to evaluate whether a patient has had a cerebrovascular event imaging should be used, since there is large discrepancy between symptoms and imaging.