

Neurological Complications of Cerebral Angiography Performed for Hospital Inpatients

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ABSTRACT

Objective: To determine the neurological complication rates of cerebral angiography performed for inpatients and explore the risk factors for neurological complications.

Patients and Methods: The medical records of all inpatients undergoing diagnostic head and neck carotid and cerebral angiograms from July 2002 to April 2004 were reviewed. A neurological complication was defined as any new neurological sign or symptom or any worsening of a pre-existing neurological deficit occurring during or within 24 hours of an angiographic procedure.

Results: Patients' medical records were reviewed for 203 of 208 procedures (97.6%). Of these, 155 procedures (76.4%) were for the evaluation of an aneurysm or arteriovenous malformation. The overall and permanent neurological complication rates were 3.4% (95% confidence interval, 1.4-7.0%) and 1.5% (95% confidence interval, 0.3-4.3%), respectively. In the subgroup of procedures for patients with clinical indications of aneurysm/arteriovenous malformation, the overall and permanent neurological complication rates were 3.2% (95% confidence interval, 1.1-7.4%) and 1.9% (95% confidence interval, 0.4-5.5%), respectively. The neurological complications were significantly related to patient age ($p < 0.05$), medical history of lipid abnormalities ($p < 0.02$), and duration of procedure ($p < 0.02$).

Conclusions: The overall neurological complication rate fell within the thresholds recommended for quality improvement and safe practice guidelines.

Key Words: Aneurysm; Arteriovenous malformations; Carotid arteries; Cerebral angiography; Intraoperative complications