CT angiography of intracranial aneurysms: advantages and pitfalls

李志明

Ng SH;Wong HF;Ko SF;Wan YL;Lee CM;Yen PS;Wai YY and Wan YL

摘要

Abstract

Objective: To determine the clinical usefulness of computed tomography (CT) angiography in the evaluation of cerebral aneurysms.Materials and Methods: From October 1994 through April 1996, 26 patients with 30 surgical proven intracranial aneurysms underwent both CT angiography and catheter cerebral angiography. The findings of the two methods were reviewed independently and then compared with each other.Results: Comparing with catheter angiography, CT angiography was superior in demonstrating the aneurysmal neck in seven aneurysms but was inferior in one. The thrombosed part and calcification of aneurysms were clearly demonstrated on CT angiograms. CT angiography also aided in differentiating tight vascular loops from aneurysms. On CT angiograms, one posterior communicating arterial aneurysm was overlooked and another anterior choroidal artery aneurysm was misinterpreted as a posterior communicating artery aneurysm. Of note were two patients in whom the infundibulum of the orbitofrontal artery was misinterpreted as the anterior communicating artery aneurysm.Conclusion: CT angiography can compliment conventional catheter angiography for its better demonstration of the 3-dimensional anatomy. It can provide surgical information about the neck, calcification and thrombosed part of an aneurysm and its relation to adjacent structures. However, caution is advocated because CT angiography may fail to demonstrate small but important vessels such as posterior communicating, anterior choroidal and orbitofrontal arteries. Recognition of the limitations of CT angiography is important in minimizing interpretation errors.