Dissecting Pseudoaneurysms: Predictors of Symptom Occurrence, Enlargement, Clinical Outcome and Treatment Modalities

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Introduction

Dissection of the carotid and vertebral arteries can result in the development of aneurysmal dilatations. These dissecting pseudoaneurysms can enlarge and cause symptoms. The objective of this study is to provide an insight on the progression of dissecting pseudoaneurysms and the treatments required to manage them.

Methods

Review of electronic medical records was conducted to detect patients with carotid and vertebral dissection. Imaging review was conducted to identify patients with dissecting pseudoaneurysms. 112 patients with 120 dissecting pseudoaneurysms were identified. Univariate and multivariate analyses were conducted to assess predictors of requiring further interventions other than medical treatment, pseudoaneurysm enlargement, and pseudoaneurysm becoming symptomatic and clinical outcome.

Results

18.3% of pseudoaneurysms were intracranial and 81.7% were extracranial. Average size was 7.3 mm. Mean follow-up time was 29.3 months. 17.8% of pseudoaneurysms became symptomatic, 13.8% were found to have enlarged during follow-up, 30.2% healed and 56% remained stable. 20.8% required an intervention other than medical treatment. Interventions included stenting, coiling, flow diversion and clipping. Predictors of requiring an intervention included increasing size, size >10mm, location in C2 segment of the ICA, younger age and symptom development. Significant predictors of enlargement included smoking, history of trauma, increasing size, size >10mm and C2 location. Predictors of pseudoaneurysm becoming symptomatic included increasing size and C2 location. Smoking was a predictor of unfavorable outcome.

Conclusions

Dissecting pseudoaneurysms have a benign course and most will not cause symptoms and enlarge on follow-up. Medical treatment can be sufficient as an initial treatment for dissecting pseudoaneurysms.

Learning Objectives

To assess the natural history of dissecting pseudoaneurysms and identify significant factors that may influence treatment and stability of these lesions.

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