

Femoral Arteriographic Abnormalities and Puncture Site Complications in Patients Treated with Carotid Artery Stenting

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Abstract

Purpose: Percutaneous carotid artery stenting (CAS) is associated with the risk of complications at the puncture site of the femoral artery. The objective of this study was to determine the frequency of femoral arteriographic abnormalities and puncture site complications assessed immediately after arterial puncture in patients treated with CAS and examine the associations between these factors.

Patients and Methods: A total of 124 consecutive patients who underwent CAS via femoral artery puncture between July 2010 and June 2013 were included in this study. In each case, an arteriographic evaluation of the puncture site was performed by injecting contrast media through an 8-Fr sheath introducer immediately after insertion into the femoral artery. If any extravasation or arteriovenous fistula formation was detected, the lesion was manually compressed in order to achieve hemostasis and/or the disappearance of the fistula before inducing systemic heparinization for the CAS procedure. The clinical and neuroradiological records of each patient were reviewed.

Results: Puncture-related complications occurred in seven of the 124 (5.6%) patients, including arteriovenous fistula formation in one patient and extravasation in six patients. All lesions were resolved by local compression, after which CAS was performed successfully in all cases. Puncture site complications were observed after CAS in six patients (4.8%), all of whom developed subcutaneous hematomas that did not either require additional treatment or affect the postoperative course.

Conclusions: Performing femoral arteriography immediately after sheath placement for CAS may reduce the incidence of puncture site complications.

Key words: Femoral artery, Carotid artery stenting, Arterial puncture, Subcutaneous hematoma, Arteriovenous fistula