

Transfemoral Stenting

The [femoral artery](#) is the most common access route for [cerebral angiography](#) and [neurointerventional procedures](#). [Complications](#) of the [transfemoral approach](#) include [groin hemorrhages](#) and [hematomas](#), [retroperitoneal hematomas](#), [pseudoaneurysms](#), [arteriovenous fistulas](#), [peripheral artery occlusions](#), [femoral nerve injury](#), and access-site [infections](#). [Incidence rates](#) vary among different [randomized](#) and nonrandomized [trials](#), and the [literature](#) lacks a [comprehensive review](#) of this subject.

Oneissi et al. gather data from 16 [randomized clinical trials](#) (RCT) and 17 nonrandomized [cohort](#) studies regarding femoral access-site complications for a review [paper](#). They also briefly discussed [management](#) strategies for these [complications](#) based on the most recent [literature](#).

A [PubMed](#) indexed search for all [neuroendovascular clinical trials](#), [retrospective](#) studies, and [prospective](#) studies that reported femoral artery access-site complications in neurointerventional procedures.

The overall access-site complication rate in RCTs is 5.13%, while in non-RCTs, the rate is 2.78%. The most common complication in both groups is [groin hematoma](#) followed by access-site hemorrhage and [femoral artery pseudoaneurysm](#). On the other hand, [wound infection](#) was the least common complication.

The [transfemoral](#) approach in [neuroendovascular procedures](#) holds risk for several complications. This review will allow further studies to compare access-site complications between the transfemoral approach and other alternative access sites, mainly the [trans-radial artery approach](#), which is gaining a lot of interest nowadays ¹⁾.

Transfemoral [stenting](#) of common [carotid artery stenosis](#) origin is technically difficult because of poor stability of the guiding catheter.

Four patients (5 stenotic lesions) with stenosis of the [common carotid artery](#) (CCA) origin underwent transfemoral stenting with a balloon protection device (PercuSurge [GuardWire](#); Medtronic, Santa Rosa, California). These 5 stenotic lesions of the CCA origin included 1 on the right side and 4 on the left side. Two of the stenoses were symptomatic, and 3 were asymptomatic. A balloon-expandable stent (Express LD stent; Boston Scientific, Natick, Massachusetts) was used in all patients.

All stenoses were successfully dilated. With the balloon protection device as an anchor in all patients, the guiding catheter was highly stable during the procedure. There were no intraprocedural or periprocedural ischemic complications in any patients. None of the patients developed a stroke during a mean follow-up period of 8.4 months.

The anchoring technique using a balloon protection device is useful for transfemoral stenting of stenoses at the CCA origin ²⁾.

¹⁾

Oneissi M, Sweid A, Tjoumakaris S, Hasan D, Gooch MR, Rosenwasser RH, Jabbour P. Access-Site Complications in Transfemoral Neuroendovascular Procedures: A Systematic Review of Incidence Rates and Management Strategies. Oper Neurosurg (Hagerstown). 2020 May 4. pii: opaa096. doi: 10.1093/ons/opaa096. [Epub ahead of print] PubMed PMID: 32365203.

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Tsuji K, Fukawa N, Nakagawa N, Watanabe A, Murakami S, Nagatsuka K, Nakano N, Kataoka K, Kato A. Transfemoral Stenting of Stenoses at the Common Carotid Artery Origin Using an Anchoring Technique With a Balloon Protection Device. *Neurosurgery*. 2016 Oct;79(4):598-603. doi: 10.1227/NEU.0000000000001312. PubMed PMID: 27309345.

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