Historically, the transfemoral approach (TFA) has been the most common access site for cerebral intraoperative angiography (IOA). However, in line with trends in cardiac interventional vascular access preferences, the transradial access (TRA) and transulnar access (TUA) have been gaining popularity owing to favorable safety and patient satisfaction outcomes.

Tudor et al. compared the efficacy and safety of TRA/TUA and TFA for cerebral and spinal IOA at an institutional level over a 6-year period.

Between July 2016 and December 2022, 317 angiograms were included in the analysis, comprising 60 TRA, 10 TUA, 243 TFA, and 4 transpopliteal approach cases. Fluoroscopy time, contrast dose, reference air kerma, and dose-area products per target vessel catheterized were primary endpoints. Multivariate regression analyses were conducted to evaluate predictors of elevated contrast dose and radiation exposure and to assess time trends in access site selection.

Contrast dose and radiation exposure metrics per vessel catheterized were not significantly different between access site groups when controlling for patient position, operative region, 3D rotational angiography use, and different operators. Access site was not a significant independent predictor of elevated radiation exposure or contrast dose. There was a significant relationship between case number and operative indication over the study period ($P<0.001$), with a decrease in the proportion of cases for aneurysm treatment offset by increases in total cases for the management of arteriovenous malformation, AVF, and moyamoya disease.

TRA and TUA are safe and effective access site options for neuro-interventional procedures that are increasingly used for IOA [1)]

1)
Tudor T, Sussman J, Sioutas GS, Salem MM, Muhammad N, Romeo D, Corral Tarbay A, Kim Y, Ng J, Rhodes IJ, Gajjar A, Hurst RW, Pukenas B, Bagley L, Choudhri OA, Zager EL, Srinivasan VM, Jankowitz BT, Burkhardt JK. Intraoperative angiography in neurosurgery: temporal trend, access site, and operative indication considerations from a 6-year institutional experience. J Neurointerv Surg. 2023 Oct 18:jnis-2023-020709. doi: 10.1136/jnis-2023-020709. Epub ahead of print. PMID: 37852753.