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The benefit of transradial artery approach in patients undergoing peripheral artery embolization

E. Khayrutdinov¹, A. Arablinskiy¹, I. Vorontsov²; ¹Moscow/RU, ²Omsk/RU

Purpose: We aimed to assess whether a radial approach (RA) is superior to a femoral approach (FA) in patients undergoing peripheral artery embolization.

Material and Methods: 132 patients were enrolled in our study. Uterine fibroid embolization (UFE) was carried out in 50 patients, transarterial chemoembolization (TACE) in 62 patients, and prostate artery embolization (PAE) in 20 patients. RA was used in 64 patients and FA in 68 patients. The duration of the procedure, time needed for catheterization of target arteries, and radiation exposure were assessed during the procedure.

Results: Embolization procedure was successfully performed in all patients. The duration of TACE (31.3 and 37.2 minutes, $p>0.05$), the time needed for catheterization of target arteries (8.1 and 9.3 minutes, $p>0.05$) and radiation exposure (0.36 and 0.46 mZv, $p>0.05$) were comparable between the two groups. The duration of UFE and PAE (7.9 vs 15.2 minutes and 56.4 vs 77.2 minutes, $p<0.05$), the time needed for catheterization of target arteries (7.9 vs 15.2 minutes and 37.2 vs 51.3 minutes, $p<0.05$) and radiation exposure (0.32 vs 0.58 mZv and 0.51 vs 0.69 mZv, $p<0.05$) were significantly lower in the RA group. In the RA group, major vascular complications were not seen and 8 (12.5%) patients had local hematoma. In the FA group, 2 (2.95%) patients had pseudoaneurysm and 11 (16.2%) had local hematoma.

Conclusions: The duration of TACE and radiation exposure are comparable between the two groups. RA is associated with a significant reduction in the duration of the UFE and PAE, time needed to catheterize target arteries, and radiation exposure.