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**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

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VARIATIONS OF POPLITEAL ARTERY TERMINAL BRANCHING: A PILOT STUDY IN A SAMPLE OF VILNIUS UNIVERSITY BODY DONORS

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Background and Aim: Knowledge of the anatomy and variations of the terminal branches of the popliteal artery is essential for surgeons performing procedures in the popliteal region. Iatrogenic injury to the popliteal artery is a rare but serious complication that may result in limb amputation or even death. The aim of this study is to determine the topographic variations and diameters of the popliteal artery distal branches and to compare the results with data from the global literature.

Materials and Methods: A total of 9 adult human cadavers injected with 10% formalin solution were dissected. Eighteen popliteal arteries (PA) and distal branches were evaluated: the anterior tibial artery (ATA), posterior tibial artery (PTA), and fibular artery (FA). Identified variations were documented and photographed. Vessel diameters were measured using a digital caliper with an accuracy of 0.01 mm. Data were collected in MS Excel, and statistical analysis was performed using IBM SPSS and R Commander.

Results: The mean age of the subjects was 80.1±9.6 years, ranging from 68 to 93 years (females: n=7; males: n=2). The most common variant of popliteal artery distal branching was Type I-A according to the Kim et al. classification - n=16 (88.88%); Type II-A2 - n=1 (5.56%) and Type II-B - n=1 (5.56%) were also observed. The mean diameters of the popliteal artery and its distal branches were: PA — 8.24±1.87 mm; ATA - 5.09±0.75 mm; PTA proximal to the fibular artery bifurcation - 6.32±1.27 mm; PTA distal to the fibular artery bifurcation - 4.22±0.79 mm; FA - 4.42±1.04 mm.

Conclusions: The most common distal popliteal branching variant was Type I according to the Kim et al. classification. No statistically significant differences were found in lumen diameters according to sex or leg side.

Keywords: anterior tibial artery, cadaveric study, popliteal artery, posterior tibial artery