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# The effect of percutaneous transluminal angioplasty of superficial femoral artery on pulse wave features

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**Abstract**

We aimed to analyze the effects of percutaneous transluminal angioplasty (PTA) of the superficial femoral artery (SFA) on arterial pulse waves (PWs). Altogether 24 subjects i.e. 48 lower limbs were examined including 26 treated lower limbs having abnormal ankle-to-brachial pressure index (ABI) (ABI$<$ 0.9 or ABI$>$ 1.3) and 22 non-treated lower limbs. The measurements were conducted in pre-, peri- and post-treatment phases as well as in follow-up visit after 1 month. Both ABI and toe pressures measured by standard equipment were used as reference values. PW-derived parameters include ratios of different peaks of the PW and time differences between them as well as aging index. Both treated and non-treated limbs were compared in pre- and post-treatment as well as follow-up visit conditions. The results were evaluated in terms of statistical tests, Bland-Altman-plots, free-marginal multirater $\kappa$-analysis and multiple linear regression analysis. PTA was found to cause small changes to the studied PW-derived parameters of the treated limb which were observed immediately after the treatment, but the changes were more pronounced in the follow-up

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