Major Disparities in the Epidemiology of Lower Extremity Peripheral Artery Disease in Central Africa

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Background
Sub-Saharan African countries adopting occidental way of life are currently undergoing an epidemiological transition resulting in an increasing incidence of non-communicable diseases, including the cardiovascular diseases (CVD) as a major part of this burden. However data regarding lower-extremity peripheral arterial disease (PAD) in Sub-Saharan Africa are unknown.

We sought to determine the prevalence and risk factors for PAD in general elder (>65 years) populations of 2 neighbour countries in the Sub-Saharan Africa with different levels of socioeconomic wealth: Brazzaville, Congo and Bangui, Republic of Central Africa (Fig. 1 & Table 1).

Materials & Methods
We performed a multicentre cross-sectional study in people aged >65 years in two representative districts of Brazzaville, Congo and Bangui, Central African Republic. Demographic, clinical and biological data were collected to determine the traditional CVD risk factors. The ankle-brachial index (ABI) was used to define PAD, when ABI <0.90.

Age, gender and CVD risk factors frequencies were computed. Multivariable logistic regression adjusted for age, gender and CVD risk factors was performed to determine the independent factors associated with PAD in the study. A p<0.05 was considered as significant for the final models.

Results
Among the 976 participants (age 73.6±6.5 yrs, 39.9% males), of whom 515 living Brazzaville and 461 in Bangui, 127 were excluded because of ABI >1.40. We found PAD in 32.4% of participants in Brazzaville vs. 15.0% in Bangui (p<0.0001).

The prevalence of PAD is globally increasing with age in both cities (fig.2). Age and sex distribution, level of education and frequencies of CVD risk factors (Body-mass index, hypertension history, diabetes, alcohol consumption, and smoking) according to ABI status are shown for each city in table 2.

Overall, adjusted for age (OR=1.24, p=0.08), gender (female OR=1.13; p=0.56), smoking (OR=1.29, p=0.28), hypertension history (OR=1.29, p=0.15), diabetes (OR=1.6, p=0.48) and regular alcohol consumption (OR=0.70, p=0.03), living in the wealthier country (Congo) (OR=2.14, 95%CI: 1.49-3.07, p<0.0001) was significantly associated with higher risk for PAD (table 3).

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CONCLUSIONS
This first population study in Central Africa highlights a high prevalence of PAD in the elderly. However, major disparities are found in two neighbour countries, underlining the major importance of socioeconomic factors on the prevalence of this atherosclerotic disease in developing countries.