Supplementary Methods 1. Histology processing and analysis.

Bilateral MCA, VA, and BA were extracted for each of the 32 subjects and divided into 2-cm blocks, starting from the proximal and progressing to the distal segments. The small parts were dissected and decalcified in 1% formic acid, followed by perfusion fixation in fresh 30% formaldehyde. Serial sections of the isolated arteries were cut transversely at 4-mm intervals and embedded in paraffin. Sections were cut in 5 μm thick and stained with hematoxylin-eosin (H&E) and Victoria blue.

The histological sections were photographed by using a Leica DC 200 digital microscope (Leica Microsystems, Wetzler, Germany), and the slides with the most severe stenosis for each large artery were quantitatively measured using Image-Pro Plus software (Media Cybernetics, Silver Spring, MD, USA). One side of MCA and VA of the more affected by atherosclerosis were selected for each subject for the following morphological measurements. The internal elastic membrane in Victoria blue staining was traced and its length was recorded as "P". Arterial diameter was obtained by the formula: $D=P/\pi$. Original luminal area "A" was determined by the formula: $A=P/4\pi$. The area of atherosclerotic plaque was then traced and recorded as "Ai". The percentage of luminal stenosis was determined by the formula: $(Ai/A)\times100\%$. The medial and adventitial thickness were measured and recorded respectively.