[gw22-e0326]

ULTRASOUND BIOMICROSCOPY ASSESSMENT OF ATHEROSCLEROSIS IN APOLIPOPROTEIN-E KNOCKOUT MICE

Li Rong Juan, Yang Ya, Song Li Beijing An Zhen Hospital, Capital Medical University, Chaoyang, Beijing, China

10.1136/heartjnl-2011-300867.122

Objectives The purpose of this study was to validate the hypothesis high-resolution ultrasound biomicroscopy (UBM) can observe that atherosclerotic (AS) progression of invivo mice can be suppressed by IL-1Ra.

Methods Two different age groups (16 and 32 weeks) of IL-1Ra^{+/-}/ApoE^{-/-} mice and IL-1Ra^{+/+}/ApoE^{-/-} mice were used as atherosclerotic models. Other groups of age-matched ApoE^{+/+}IL-1Ra^{+/+} mice were used as normal control groups. They were imaged at the level of the aorta by UBM. The intima-media thickness (IMT) or Plaque thickness was delineated in the ascending aorta (AAO) short-axis images, and compared with corresponding histological measurements in the same vascular section.

Results (1) No atherosclerotic lesions were found in control mice. Plaque thickness in the ascending aorta of IL-1Ra^{+/-}/ApoE^{-/-} mice at age 16 weeks was significantly increased compared with IL-1Ra^{+/+}/ApoE^{-/-} mice measured by UBM and histology ($p < 0.05$). At 32 weeks, the differences of plaque thickness and plaque area between IL-1Ra^{+/-}/ApoE^{-/-} mice and IL-1Ra^{+/+}/ApoE^{-/-} mice failed to achieve statistical significance by UBM and histology ($p > 0.05$). (2) Plaque thickness in the ascending aorta measured by UBM in IL-1Ra^{+/-}/ApoE^{-/-} mice and IL-1Ra^{+/+}/ApoE^{-/-} mice were correlated with histological measurements from the same vascular region.

Conclusion (1) By measuring maximum IMT in the ascending aorta, UBM was capable of following progression of atherosclerosis in AS models mice. (2) Our results suggest an important role of IL-1Ra in the suppression of lesion development during early atherogenesis.