

Immunolocalization of pro-inflammatory cytokines within human aortic aneurysms

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Much recent experimental evidence suggests that inflammatory reactions are involved in aneurysm formation and progression [1]. Vessel wall weakening has been attributed to the infiltration of a variety of cells, which leads to the upregulation of multiple cytokines [2]. A growing interest is currently focused in the definition of cytokines associated with the final stage of the disease that precedes the rupture.

In the present study full aortic segments were collected from patients with thoracic aortic aneurysms, according to the declaration of Helsinki. Control aorta tissue from organ donors was included as reference. Microtome sections of paraffin embedded samples were analyzed for the presence of IL-17 and IL-23 positivity. Aortic sections were also stained with hematoxylin and eosin and Verhoeff-Van Gieson for elastin.

Immunohistochemistry detected IL-17 and IL-23 positive cells at the level of adventitia and muscle cell layer.

Our data reinforce previous results showing that IL-17 plays a central role in the promotion of vascular inflammation. The identification of main cytokines released during inflammatory processes underlying aneurysm formation and progression may lead to the set up of pharmaceutical strategies that may prove effective for the stabilization of aortic aneurysms.

References

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Key words

Cytokines, IL-17, IL-23, vascular inflammation, aortic aneurysms, immunohistochemistry.