

## Inflammatory infiltrates surrounding new vasa vasorum in adventitial layer of thoracic aortic aneurism

Vasily N Sukhorukov



Institute of Human Morphology & Institute of Experimental Cardiology, Russian Federation

### Abstract

**Background and Aims:** Damage to the structure of aortic wall aneurysm is associated with the presence of inflammatory cells, mainly T-cells and macrophages, which are often located around vasa vasorum in adventitia of the dilated vessel, thus indicating the responsibility of immune mechanism. This study was undertaken to reveal the relationship between active inflammation in aneurysmatic aortic wall and the density of vasa vasorum in adventitia.

**Methods:** The segments of aneurysms of thoracic aorta were taken from 25 patients (20 men and 5 women aged 33-69) during surgery. Activity of inflammation in adventitia was assessed by immunohistochemical staining for CD3, CD4, CD8 and CD68-positive cells; the density of vasa vasorum was estimated by immunohistochemical staining for von Willebrand factor and endothelial NO-synthase.

**Results:** Massive inflammatory infiltrates were detected in 6 cases both in adventitial and medial layers; in 6 cases there was moderate inflammatory infiltration observed only in adventitia, and in the remaining 13 cases only single inflammatory mononuclear cells were present in adventitia. CD4 and CD68-positive cells dominated in the infiltrates, which were localized around vasa vasorum. The density of vasa vasorum correlated with the degree of inflammatory infiltration.

**Conclusions:** In approximately 25% cases of aneurism of thoracic aorta there is an active inflammation both in adventitia and media, which contributes to the development of a denser network of newly formed vasa vasorum. Uncontrolled inflammation may result in structural damage to lamellas in medial layer, thus increasing the risk of further progression of the aneurism.

This study was supported By Russian Science Foundation, Grant 20-45-08002.

### Biography

Vasily Sukhorukov has completed his MD at the age of 23 years from Saint-Petersburg University, Russia. He is the researcher of Research Institute of Human Morphology, Russia. He has over 30 publications, and his H-index is 5 and has been serving as a guest editor of Current Pharmaceutical Design.

---

**Citation:** Vasily N. Sukhorukov, Institute of Human Morphology & Institute of Experimental Cardiology, Russian Federation, Inflammatory infiltrates surrounding new vasa vasorum in adventitial layer of thoracic aortic aneurism, 02

---