Clinical case: coronavirus infection and dissecting aortic aneurysm

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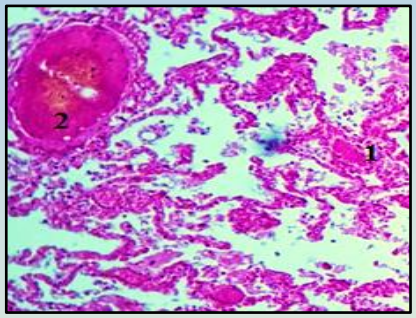
According to scientific data, which analyzed comorbidities in death from COVID-19, the most common pathology is arterial hypertension. When hospitalized, hypertensive patients often feel worse than those with other conditions. It is for this reason that the COVID-19 pandemic presents a particular challenge for these patients.

The aim of the study was to describe the pathological material obtained as a result of the death of a 56-year-old man from COVID-19 pneumonia associated with dissecting aortic aneurysm against the background of arterial hypertension.

Methods. The obtained micropreparations were processed with hematoxylin-eosin and immunohistochemical methods

Results. Histologically, necrosis and desquamation of the alveolar epithelium were revealed (1,2); edematous fluid with an admixture of fibrin filaments and mononuclear cells was visualized in the alveoli. Macroscopically, signs of a dissecting aortic aneurysm were revealed: on the posterior wall of the aorta, 0.5 cm above the level of the valves, an atherosclerotic plaque was determined at the stage of atheromatosis and calcification with ulceration, measuring 1.5x1x0.5 cm, at the border of the plaque with t. intima, along the lower edge, there was a stellate wall defect with a total diameter of up to 1.1 cm with irregular edges, the gap leading into the aortic wall and the pericardial thickness. Detachment t. intima of the aorta started from the orifice to the distal aortic arch (3). In the lumen of the aorta, liquid dark blood was detected, t. yellow intima with pronounced atherosclerotic plaques in the stage of fibrosis, affecting more than 50% of the aorta area with a predominant lesion of the ascending aorta. Stratification of the endothelial and elastic layers of the aorta was noted histologically (4). An immunohistochemical study of elastin showed pronounced fragmentation of elastic fibers. Inflammatory infiltration in the area of t. adventicii aorta and vasa vasorum consisted of CD3 (T-lymphocytes), CD20 (B-lymphocytes), and CD68 (macrophages).



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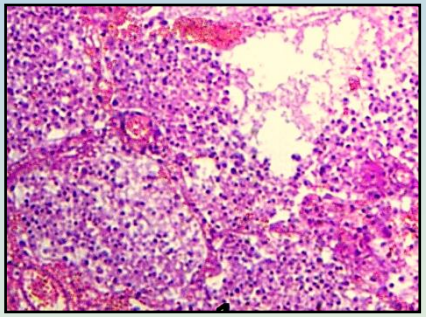

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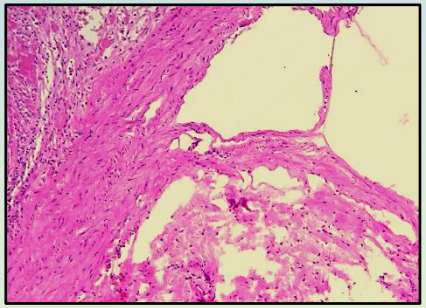

4

staining with hematoxylin eosin, x 900

Findings. It is known that vasa vasorum macrophages, T-lymphocytes and endotheliocytes are of great importance in the formation of aneurysms. Thus, the main cause of death was a dissecting aortic aneurysm according to Stanford - type A, according to DeBakey - type II. The associated viral pneumonia aggravated the course of the disease and affected the death.

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