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Title: Ultrastructure of thrombocytes in bronchial asthma and modeling of experimental allergic process

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Body: The aim: establish the role of thrombocytes in the pathogenesis of allergic diseases and in experimental models. Materials and methods: scrapings of the mucosa of the nasal cavity (SMNC), bronhobiopates (BB) and peripheral blood cells of 33 patients with allergic rhinitis and bronchial asthma (BA) in order to study the thrombocytes by transmission (TEM) and scanning electron microscopy (SEM). Experimental simulation was carried out on guinea pigs using intravenous injection of heterologic mitochondrial antibodies to get an allergic reaction. Results. We detected marked changes of thrombocytes by SEM: aggregation, changing of the configuration and of pseudopodia. With TEM we revealed in SMNC and BB a lot of damaged thrombocytes inside the vessels, in pericapillar and in perivascular spaces. Submicroscopic picture varied depending on the severity of the disease. We found the destruction and enlightmen of cell organells. In the experimental simulation we investigated thrombocytes in the microvessels of airways. Noteworthy that thrombocytes were detected outside of microvessels. Aggregation was observed especially in the area of aero-blood-vesse barrier. Contacts of thrombocytes with white blood cells and an interchange of dark and light thrombocytes were found. Ultra-changes of thrombocytes by TEM in the experiment were identical to the ones we observed in clinic material. Conclusion. All our findings suggest that thrombocytes play a significant role in the pathogenesis of BA and in the dynamics of experimental allergic process. The detected changes are a sign hypoxic conditions, which can be interpreted as one of the pathogenetic system features of BA.