

Title: Observation of motion of neutrophil-like HL-60 cells under pressing forces

Abstract: It is known that neutrophils' transmigration is extensively observed in post-capillary venules, and the venules are called marginated pool of neutrophils. The margination of the cells could be induced by bonding with adhesion molecules on the endothelium and expulsion from an axially accumulated erythrocytes. Numerous researches have been performed on contribution of the bonding molecules on the motion of the cells in the venules, but contribution of the pushing by the column of the erythrocytes has not been investigated. Then, my group has developed an inclined centrifuge microscope to observe motion of neutrophil-like HL-60 cells on some substrates including cultured human endothelial cell layers. This microscope has a feature to apply well-controlled pressing force and driving force to the cells on a substrate. I'd like to introduce some recent results of motion of the HL-60 cells observed with this microscope.