

## Role of Arterial Pulse in Blood Flow

MERAB BERAIA<sup>1</sup>, FRIDON TODUA<sup>2</sup>, IRINA KHOMERIKI<sup>3</sup>

<sup>1</sup>MRI department at the Institute of Clinical Medicine, Tbilisi, Georgia

<sup>2</sup>CT department at the Institute of Clinical Medicine, Tbilisi, Georgia

<sup>3</sup>Department of Biomedical Engineering at Georgian Technical University Tbilisi, Georgia

Blood ejection into the aorta produces the wave of distention - pulse wave which are move on artery walls; they are not caused by the forward movement of the blood and is transmitted fifteen or more times more rapidly than the blood flow (1). Heart systolic energy is split on: a) arterial pulse energy b) blood flow energy. Diagnostic ability of the pulse was state by the ancient Greek physician - Hippocrates, but he did not known function of the arterial pulse.

In the present day motion of the blood is described by the Navier-Stokes equations. It is an application of Newton's second law to a continuum (2). Equation shows the increment of velocity but could not explain initial movement of the stationary liquid and it is incomprehensible to studied apparent waste of energy before the flow.