



Doppler Ultrasound for the Existence of Blockage in Lower Limb Arteries

Muhammad Waqas Akhtar¹

¹M.Phil. Department of Physics, The Islamia University of Bahawalpur Pakistan

Abstract

Purpose: The purpose for this research study was to develop the most efficiently reliable and accurate method to determine the presence of blockage in the lower limb arteries without any ambiguity. Blockage in the lower limb arteries comes due to the problems like the fats deposition or cholesterol rich substances inside the arterial walls. These problems cause the reduction in the arterial radius by narrowing the arteries.

Method: For this purpose the method was adopted with the fact that, change in the arterial radius arises due to presence of blockage inside the arterial walls which affects the speed or velocity of the flowing blood through that particular artery and hence produce a change in the waveform pattern of the received echoes. The method is the combine study of changing waveform pattern and changing speed or velocity of the blood flowing through the particular artery. 10 cases of different ages and sex were taken into consideration by using Doppler ultrasound technique.

Results: Results showed blockage in many cases but with varying degree of blockage. Some cases showed normal or early blockage and some show late or well blocked artery. Also some normal cases were taken for study, so as to evident the effectiveness of this method to determine the absence of blockage.

Conclusion: It was concluded that waveform pattern comparison along with the velocity comparison method is most careful, very accurate and appreciable indicator for the determination of existence of blockage in lower limb arteries.

Keywords: Lower limb; Arterial blockage; Doppler Ultrasound.