

## Influence of Combined Low Frequency Ultrasound and Lymphatic Drainage Techniques on Body Fat Mass and Triglycerides in Atherosclerotic Patients

Manar M. Badawy<sup>1</sup>, Nesreen G. Elnahas<sup>2</sup>

<sup>1</sup>Physical Therapy Department, Faculty of Applied Medical Health,  
University of Dammam, Dammam, KSA.

<sup>2</sup>Department of Cardiovascular/ Respiratory Disorder and Geriatrics, Faculty of  
Physical Therapy, Cairo University, Egypt.

**Abstract:** The aim of this study is to find out the effect of low frequency ultrasound and lymphatic drainage on body fat mass composition and blood triglycerides and testing the strength of the relationship, between the response of fat mass and the changes in the Total Body Triglycerides, **Methods:** Forty women patients with age ranged from 40 to 50 years were selected from out-patient clinic of cardiovascular diseases in Palestine hospital as they were diagnosed by chronic atherosclerosis. They were assigned into 2 groups according to their body mass index, based on the classification of the world health organization, (Group A (34.2 – 39.3 kg/m<sup>2</sup>) and Group B (42.9 - 49.11 kg/m<sup>2</sup>)). Both groups were evaluated before and after 24 sessions for body fat mass and blood serum triglycerides. Then they were enrolled in a combined treatment program of low frequency ultrasound and lymphatic drainage application of 20 minutes each for 24 sessions. **Results:** There was a statistical significant reduction of blood serum triglycerides and for body fat mass with a percentage of improvement (Gr. A: 8.5%, Gr. B: 10.6%) & (Gr. A: 12.4%, Gr. B: 10.2%) respectively after the end of the program moreover; there was a strong positive correlation between the reduction of total body Fat mass and serum blood triglycerides. **Conclusion:** The combined treatments of low frequency ultrasound technique plus lymphatic drainage technique improve fat mass composition as well as blood serum triglycerides of chronic coronary atherosclerosis patients.

**Keywords:** Low frequency ultrasound/ Lymphatic Drainage/ Triglycerides/ Fat mass/ Coronary Atherosclerosis.