Abstract

The current study was designed to determine the effect of home-based treadmill training on epicardial and abdominal adipose tissue in postmenopausal women with metabolic syndrome (MS). A secondary objective was to identify significant correlations between imaging and conventional anthropometric parameters. Material and Methods Sixty postmenopausal women with MS volunteered for the current trial. Thirty were randomly assigned to perform a supervised home-based 16-week treadmill training program, 3 sessions/week, consisting of a warm-up, 30-40 min treadmill exercise (increasing 5-minutes each 4-weeks) at a work intensity of 60-75% of peak heart rate (increasing 5% each 4-weeks) and cooling-down. Epicardial fat thickness (EFT) was assessed by echocardiography. Abdominal fat mass in the lumbar regions L1-L4 and L4-L5 was determined by dual X-ray absorptiometry. Results Epicardial fat thickness and abdominal fat percentages were significantly improved after the completion of the training program. Another striking feature of the current study was the moderate correlation that was found between EFT and waist circumference (WC). Conclusion Home-based treadmill training reduced epicardial and abdominal fat in postmenopausal women with MS. A secondary finding was that a moderate correlation was found between EFT and WC. While current investigations are promising, future studies are still required to consolidate this approach in clinical application.

Keywords

Key words, Metabolic syndrome, Postmenopausal, Epicardial adipose tissue, Abdominal adipose tissue, Exercise.