



P13 Role of Adipose Tissue and Skeletal Muscle in Peripheral Arterial Disease

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ABSTRACT

Background: Peripheral arterial disease (PAD) is a manifestation of atherosclerosis. Adipose tissue (AT) and skeletal muscle (SM) are endocrine organs with vascular effects. The objective is to compare the quantity and function of AT and SM between two groups: intermittent claudication (IC) and critical limb ischemia (CLI).

Methods: A prospective observational study is being performed. A transverse CT image at lower border the third lumbar vertebra was used to quantify the SM, visceral and subcutaneous AT. The SM function was inferred with the determination of hand strength using a Jamar[®] hydraulic hand dynamometer.

Results: From December 2018 to May 2019, 44 PAD were studied: 31 with IC (24 male; age: 67 10, 29 years) and 13 CLI (7 male; age: 70, 62 6, 74 years). CLI have a lower quantity of subcutaneous AT and higher quantity of visceral and total AT, determined on the CT scan (subcutaneous AT: 16564,75 7600,00 cm² IC versus 16067,42 10187,33 cm² CLI $p = 0,03$; visceral AT: 17212,20 10096, 30 cm² IC versus 18904,85 10189,04 cm² CLI $p = 0,03$; Total AT: 33222,08 15459,33 cm² IC versus 57320,00 52538,78 cm² CLI $p = 0,03$). CLI had lower SM strength and density (muscle strength right hand: 22,62 8,20 Kgf IC versus 16,38 7,84 Kgf CLI $p = 0,02$; SM strength left hand: 21,98 8,98 Kgf IC versus 16,37 8,35 Kgf CLI $p = 0,04$; SM density: 20,44 11,73 HU IC versus 9,04 28,47 HU CLI $p = 0,01$) No differences were found in the SM quantity (15120,87 3199,35 cm² IC versus 15322,57 5315,31 cm² CLI $p = 0,44$).

Conclusion: CLI have a higher quantity of visceral, total AT and lower quantity of subcutaneous AT, SM function and density.

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