Conference Abstract

P.63 Sarcopenia and Atherosclerotic Occlusive Disease: How Much We Know and What We Need to Know About this Association?

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Keywords

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ABSTRACT

Purpose/Background: Sarcopenia (decrease of muscle mass and function) has been linked with atherosclerosis [1]. The EWGSOP2 updated consensus, uses low muscle strength as the primary indicator of sarcopenia [2]. It is acknowledged that strength is better than mass for predicting adverse outcomes [2]. Handgrip strength (HGS) is a simple assessment to estimate overall muscular strength [3]. and is associated with cardiovascular mortality [4].

Objective: Analyze the relationship between HGS and atherosclerotic disease (carotid artery disease + lower extremity artery disease).

Methods: Prospective observation study was conducted from January to December 2019. The clinical and demographic data was recorded. Isometric HGS was measured with an adjustable handheld dynamometer (Jamar The higher value of each arm was used to classify the patient as sarcopenic or non-sarcopenic. Definition of sarcopenia: HGS <30 kgf in men and <20 kgf in women [5].

Results: 94 patients (aged 44–86 years) were analyzed: 64 sarcopenic and 30 non sarcopenic. Groups differed in the prevalence of diabetes and smoking status (Table 1). No differences were found in the carotid parameters analyzed (Table 1). There was, a difference in the prevalence of chronic limb-threatening ischemia (CLTI) in sarcopenic versus non-sarcopenic group (23.44% *versus* 6.67% $p = 0.046$). Importantly, binary logistic regression showed that diabetes ($p = 0.014$), and HGS ($p = 0.027$) have a significant effect on CLTI (Table 2).

Conclusions: No relationship was found between sarcopenia (measured by HGS) and carotid atherosclerosis, differing from other authors [1,6]. In this study, sarcopenic had a higher incident of diabetes and CLTI. Sarcopenia and diabetes are reciprocally related and may share a similar pathogenetic pathway [7,8,9].

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Table 1

	Sarcopenia (*n* = 64)	No Sarcopenia (*n* = 30)	*p*
Age (years)	69.81 ± 8.79	62.6 ± 8.61	*p* = 0.889
Male	47 (73.44%)	27 (90.00%)	*p* = 0.067
Hypertension	51 (79.69%)	21 (70.00%)	*p* = 0.301
Dyslipidemia	47 (73.43%)	18 (60.00%)	*p* = 0.189
Smoking load (UMA)	24.42 ± 33.14	37.76 ± 31.8	*p* = 0.748
Smoker/Ex-smoker	33 (51.56%)	24 (80.00%)	**p = 0.013***
Diabetes	28 (43.75%)	7 (23.33%)	**p = 0.049***
Coronary disease	11 (17.19%)	4 (13.33%)	*p* = 0.613
History of stroke	11 (17.19%)	3 (10.00%)	*p* = 0.347
Total cholesterol (mg/dL)	158.16 ± 39.82	159.6 ± 30.72	*p* = 0.22
LEAD	43 (67.19%)	17 (56.67%)	*p* = 0.275
Claudicants	28 (43.75%)	15 (50.00%)	*p* = 0.615
CLTI	15 (23.44%)	2 (6.67%)	**p = 0.046***
ABI right	0.83 ± 0.24	0.78 ± 0.29	*p* = 0.287
ABI left	0.81 ± 0.28	0.77 ± 0.23	*p* = 0.671
Right carotid artery stenosis			
50–70	4 (6.25%)	2 (6.67%)	*p* = 0.952
>70%	58 (90.63%)	27 (90.00%)	*p* = 0.702
Light carotid artery stenosis			
50–70	3 (4.79%)	1 (3.33%)	*p* = 0.787
>70%	4 (6.25%)	2 (6.67%)	*p* = 0.903
Area right carotid plaque (mm^2)	21.22 ± 19.81	20.01 ± 17.04	*p* = 0.622
Average IMT- right (mm)	0.96 ± 0.41	0.88 ± 0.24	*p* = 0.159
Area left carotid plaque (mm^2)	21.46 ± 18.73	21.47 ± 22.06	*p* = 0.948
Average IMT- left (mm)	0.93 ± 0.25	0.88 ± 0.29	*p* = 0.861

Table 2

Independent variables	Categories	*β*	95% CI	*p*
CLTI	Diabetes	1.488	1.34–14.60	0.014
	Higher HGS	−0.888	0.846–0.990	0.027

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