Prevalence of metabolic syndrome among (human immunodeficiency virus) HIV and HCV (Hepatitis C) in subjects in southern Brazil.

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INTRODUCTION

Nowadays, 35 million people worldwide are living with HIV.
With the advancement of the treatment of this disease, these patients went on to develop changes unrelated to HIV. These they include metabolic changes related to glycemic control, lipodystrophy, atherosclerosis, liver damage, among other.
Infection with the hepatitis C virus has been reported as a cause of mitochondrial DNA damage synergistic those occurring by co-infection of HIV and HCV.
This damage appears to be enhanced in patients using antiretroviral drugs as the treatment itself can cause mitochondrial toxicity with development of metabolic syndrome and insulin resistance.

OBJECTIVE

The objective of this study was to investigate metabolic syndrome and dyslipidemia among pacintes with HIV and HCV in southern Brazil

METHODS

Cross-sectional study
This study was approved by ethics committee (CAAE 00535211.0.0000.5306).
This study included 127 outpatients carriers of HIV and / or HCV virus, the Infectious Diseases Service, Academic Hospital of Santa Maria who consulted in 2013.
Inclusion criteria: Infection confirmed by at least one of the viruses under study, age over 18 years, not be taking drugs to cholesterol or alpha interferon for at least 30 days, not be pregnant.
HIV Infection was defined with two reagent samples by different methods. A positive HCV serology was confirmed by the polymerase chain reaction (PCR).

Metabolic syndrome was defined by the criteria of IDF (International Diabetes Federation): abdominal obesity associated with two criteria: fasting glucose≥ 100 mg / dL or diagnosis of diabetes, triglycerides> 150 mg / dL, HDL- cholesterol <40 md / dL for men and <50 mg / dL for women; systolic blood pressure≥ 130 mm Hg or diastolic≥ 85 mm Hg or treatment for hypertension.

The insulin resistance index was calculated by "HOMA calculator v2.2.2" available at http://www.dtu.ox.ac.uk/homa (HOMA2-IR) and insulin formula of fasting (mIU / L) x jehum glucose (mg / dL) / 402 for HOMA-IR.

Statistical analysis

The analyzes were performed using SPSS for Windows (version 17.0). The normality of the variables was evaluated by Shapiro-Wilk test and the means were compared by One-way ANOVA. Bivariate correlation analysis was made between metabolic syndrome by IDF and the HOMA

Results

This study included 127 patients aged 21-72 years. Of these, 59 with HIV alone, 36 co-infected and 32 with HCV.

Table 1.Clinical Characteristics between Groups

	HIV	Coinfection	HCV +	P
Male sex (%/n)	33,7 (22)	**63,9 (23)**	50 (16)	0,041
Age	**39**	39,7	45	<0,05
Smoke (%)	40,7	44,4	21,9	<0,05
IMC Kg/m2	24,8	25,7	26,3	n/s
Overwigth	33,9	10,2	28	P<0,05
Obesity	**19,4**	**25,0**	28	n/s

Table 2.Metabolic differences between groups

	HIV	Coinfection	HCV	P
CT mg/dL	177 (43) [1]	151 (24) [1]	176 (43)	0,01
LDL- col mg/dL	107 (45) [1]	83 (27) [1]	104 (38)	0.031
HDL- col mg/dL	42 (7.7) [1]	40 (9.9) [1]	53 (15)	0.022
Tri mg/dL	129 (48) [1]	142 (36)[2]	93 (38) [1, 2]	0.003
Glucose mg/dL	86 (10)	93 (12)	86 (16)	0.06
HbA_1C %	5.5 (0.07)	5.2 (0,47)	5.6 (0.49)	0.07
HOMA2-IR	1.14 (1.55) [1]	1.74 (1.07) [1]	1.33 (0.96)	0.028
HOMA1-IR	1.95 (2.72) [1]	3.24 (1.81) [1]	2.33 (1.9)	0.017

1,2: superscript groups with statistically significant differences at p <0.05

	HIV	Coinfection	HCV +	p
Waist ≥ 80 /90 cm (%)	63	47	67	0.61
HOMA2-IR INDEX (1,4 Cut-off)	26 [1]	54[1]	37	0,01
HOMA1 –IR (>2,7)	26 [1]	54 [1]	38	0,001
Metabolic Syndrome (%)	27	30	25	0,8

1,2: superscript groups with statistically significant differences at p <0.05

CONCLUSION

The presence of hepatitis C coinfection is responsible for alarming levels of insulin resistance, associated with a more favorable lipid profile that could act as a confouder in clinical diagnosis of metabolic syndrome.

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