Predictive factors of the metabolic syndrome in the obstructive sleep apnea hypopnea syndrome

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INTRODUCTION

The metabolic syndrome (MS) is a frequent complication of the obstructive sleep apnea hypopnea syndrome (OSAHS). Its predictive factors have to be known by the doctors setting in charge patients with OSAHS. The aim of this study was to determine the prevalence of the MS and its predictive factors in Tunisian patients with OSAHS.

METHODS

A retrospective study including 181 patients with OSAHS from the respiratory D department at the Abderrahmane Mami Ariana hospital Tunisia, between January 2010 and December 2014. A standard overnight polysomnography had been performed on all patients. The apneas and hypopneas were identified and scored according to the American Academy of Sleep Medicine Task Force (AASM) 2012 [1]. Metabolic syndrome was defined according to the International Diabetes Federation criteria of 2005 [2]. We looked for the MS related factors by univariate then multivariate analysis.

RESULTS

- Prevalence of the MS: 68%(n=123).
- Table I summarizes the general characteristics of the patients. The difference was not significant for all parameters:

Table I: General characteristics of the patients

Variables	MS + (n=123)	MS - (n=58)
Age (years)	55,9 ± 12,82	51 ± 15,27
Sex ratio (men/women)	48/75	16/18
menopause (%)	83,3	78,3
Smoking (%)	77,6	22,4
Alcohol (%)	68,8	31,3

- table II summarizes the metabolic characteristics of the patients.

Table II: Metabolic characteristics of the patients

Variables	MS + (n=123)	MS - (n=58)	p	OR	[95 % CI]
Personal history(%)					
*Type 2 diabetes	95,9	4,1	<0,0001	14,10	[4,09-48,65]
*Hypertension	85,1	14,9	0,005	2,94	[1,35-6,41]
*Dyslipidemia	95,5	4,1	0,001	8,29	[1,89-36,31]
BMI (kg/m²)	38,02±6,45	35,85±7,75	0,05	-	-

- Table III summarizes the respiratory parameters of the patients:

Table III: Respiratory parameters of the patients

Variables	MS+ (n=123)	MS - (n=58)	p	OR	[95% CI]
Sleep fragmentation (%)	78,2	21,8	NS	-	-
Daytime sleepness (%)	82,5	17,5	0,04	2,26	[1,02-5,04]
Attention disorders (%)	94,6	5,4	0,06	6,36	[1,44-27,99]
Epworth ≥ 10 (%)	71,4	28,6	NS	-	-
pathological Oto-rhino-laryngology (%)	75	57,5	0,01	2,21	[1,17-4,18]
AHI(/hour)	38,68±22,56	38,23±18,88	NS	-	-
Severe OSAHS (%)	67,2	32,4	NS	-	-
Desaturation index	32,51±26,34	29,99±22,72	NS	-	-
Average SaO2 (%)	94,37±5,05	96,68±1,69	0,002	-	-

- Table VI summarizes the predictive factors of the MS in patients with OSAHS in the multivariate analysis.

Table VI : Predictive factors of the MS in patients with OSAHS (multivariate analysis)

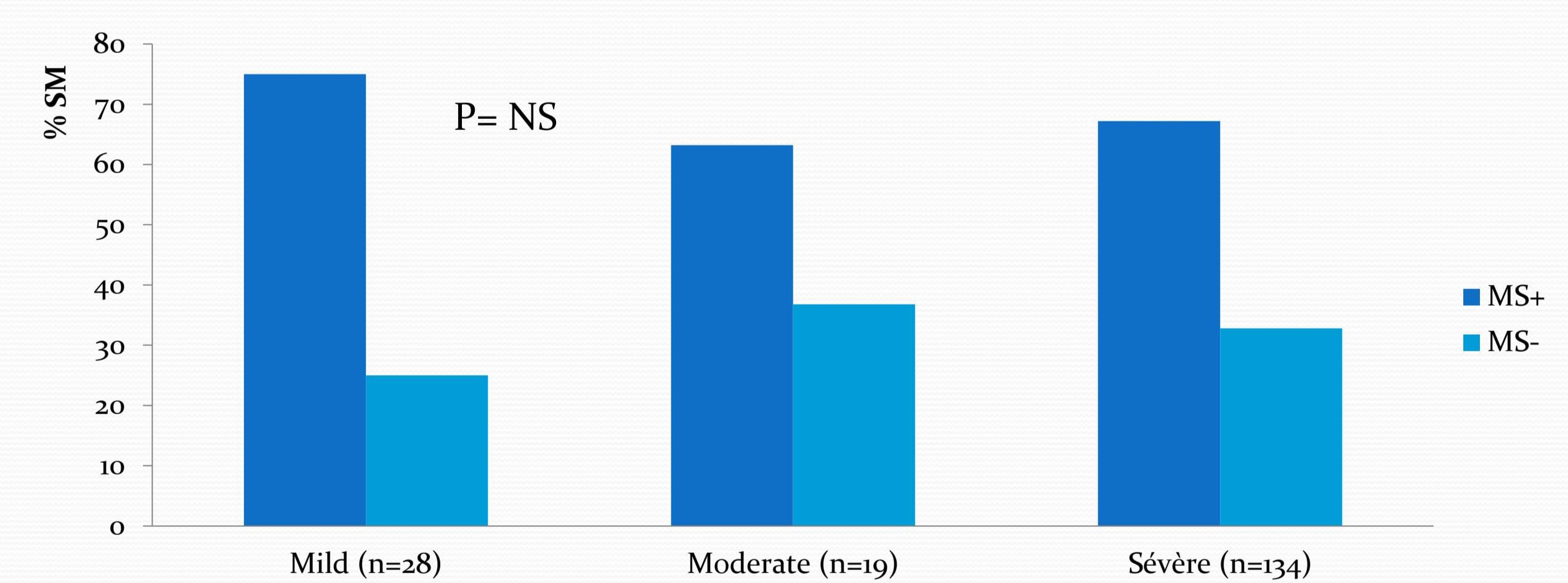| variables	p	Adjusted OR	[95 % CI]
Daytime sleepness	0,043	2,15	[1,02-4,51]
Pathological Oto-rhino-laryngology	0,002	2,97	[1,47-6,01]
Obesity	0,003	4,375	[1,62-11,76]

Figure 1: : Frequency of metabolic syndrome according to the severity of OSAHS

CONCLUSIONS

The prevalence of MS is high in patients with OSAHS. Its occurrence does not correlate with the severity of OSAHS. Thus, its screening must be systematic especially in the presence of its predictive factors. The early diagnosis allows an optimal management and an improvement of the cardiovascular prognosis of these patients.

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