

Myofascial Pain Syndrome in Medical Doctors

Doktorlarda Miyofasyal Ağrı Sendromu

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ÖZET

Amaç: Bu çalışmanın amacı dahiliye uzmanları ile anestezi uzmanları arasında sırt ve boyun ağrılarını içeren miyofasyal ağrı sendromu (MAS) oluşumunu karşılaştırmaktır.

Yöntemler: Çalışmaya 54'ü anestezi uzmanı (ortalama yaş 30.7±3.4) ve 57'si (ortalama yaş 29.6 ±3.7) dahiliye uzmanı olmak üzere toplam 111 tıp doktoru dahil edilmiştir. Her iki grup arasında demografik özellikler, risk faktörleri, Görsel Analog Skala, Nottingham Sağlık Profili ve Beck Depresyon Skalası karşılaştırılmıştır.

Bulgular: MAS anestezi uzmanlarında dahiliye uzmanlarına göre belirgin olarak daha sık bulunmuştur (p=0.001). Beck Depresyon Skalası değerleri belirgin olarak daha yüksek ve Nottingham Sağlık Profili değerleri de MAS olan kişilerde belirgin olarak daha düşük bulunmuştur (p<0.001).

Sonuç: MAS'ın anestezi uzmanlarında, dahiliye uzmanlarına göre daha sık olduğunu söyleyebiliriz. Ek olarak, MAS yaşam kalitesini olumsuz yönde etkileyen bir parametredir. Daha iyi bir yaşam kalitesine ulaşmak için altta yatan risk faktörleri önlenmelidir.

Anahtar Kelimeler: Yaşam kalitesi; tetik nokta; ağrı; postür; depresyon; uyku bozuklukları

ABSTRACT

Objective: The aim of this study was to compare the myofascial pain syndrome occurrence involving neck and back in anesthetist specialist with internal specialist.

Methods: A total of 111 medical doctors were included in this study. There were 54 anesthetists (a mean age of 30.7±3.4) and 57 internal specialists (a mean age of 29.6±3.7). Demographic features, risk factors, Visual Analog Scale, Nottingham Health Profile and Beck Depression Scale were compared between the groups.

Results: MPS was significantly more frequently seen in anesthetists than internal specialists (p=0.001). Beck Depression Scale values were significantly higher and Nottingham Health Profile values were significantly lower in subjects with MPS (all p<0.001). Moreover, sleep and posture disorders were found to be more common in subjects with MPS (all p<0.001).

Conclusion: MPS is more frequently seen in anesthetists than internal specialists. Additionally, MPS is a parameter affecting the quality of life adversely. In order to achieve better quality of life, the underlying risk factors should be prevented.

Key words: Quality of life; trigger point; pain; posture; depression; sleep disorder

Introduction

Myofascial pain syndrome (MPS) is a regional musculoskeletal pain disorder characterized by trigger points. Trigger points (taut bands within the muscle/fascia) feature focal tenderness, referred pain and autonomic responses with palpation, decrement in range of motion (1). MPS usually occurs in shoulder, neck and low back muscles. MPS has been reported to be a wide and commonplace

disability affecting the quality of life adversely (2).

One of the most frequently seen occupational disorders are work related musculoskeletal disorders of the upper limb and neck (2). Myofascial pain syndrome has been shown to be related to occupational factors as well. In previous data, MPS occurrence has been reported in different occupation groups (3-8). However, to our best notice, it has not been studied between medical



doctors. Consequently, the purpose of this study was to compare the MPS occurrence in anesthetists with internal specialists and its association with the quality of life.

Material-Methods

A total of 111 medical doctors were included in this study. Demographic features, risk factors, physical examination findings of the subjects were noted. All subjects were conducted a questionnaire including risk factors for MPS. MPS was diagnosed

according to Simon criteria as the follows; presence of a palpable taut band, presence of a hypersensitive tender spot, local twitch response elicited by palpation of the taut band and referred pain pattern in response to compression of the trigger point (9). Nottingham Health Profile was used to assess the quality of life of the subjects. Beck Depression Scale was used to assess the emotional condition. Informed consent was obtained from the patients and this study protocol was approved by the Local Ethics Committee.

Table 1. Demographic and Clinical Features of the Subjects

Variables	Anesthetists (n: 57)	Internal Specialists (n: 54)	p value
Age (years)	29.7±3.8	30.7±3.4	0.124
BMI (kg/m ²)	23.2±3.7	22.6±3.4	0.344
Gender (n,%)			0.304
Male	24 (42.1%)	28 (51.9%)	
Female	33 (57.9%)	26 (48.1%)	
Gestation (n,%)	7 (21.2%)	4 (15.4%)	0.740
DM (n,%)	4 (7%)	2 (3.7%)	0.679
Hypothyroidism (n,%)	4 (7%)	-	0.119
Hyperthyroidism (n,%)	2 (3.5%)	-	0.496
Exercise (n,%)	28 (49.1%)	36 (66.7%)	0.062
MPS + (n,%)	19 (33.3%)	35 (64.8%)	<0.001
Sedentary Life (n,%)	16 (28.1%)	15 (27.8%)	0.973
Macro Trauma (n,%)	-	4 (7.4%)	0.053
Micro Trauma (n,%)	6 (10.5%)	9 (16.7%)	0.344
Sleep Disorder (n,%)	16 (28.1%)	30 (55.6%)	0.003
Posture Disorder (n,%)	19 (33.3%)	24 (44.4%)	0.230
Beck Depression	7 (2-16)	4 (0-12)	<0.001
Nottingham Health Profile	5.3 (0-18.4)	6.6 (0.0-18.4)	0.538

The values are shown in mean ± SD or N (%) BMI: Body mass index
MPS: Myofascial pain syndrome



Table 2. Comparison of the Quality of Life, Beck Depression Scale and Risk Factors in Subjects With and Without Myofascial Pain Syndrome

Variables	MPS (+) (n:54)	MPS (-) (n:57)	<i>p</i> value
Age (Years)	30.8±3.2	29.6±3.9	0,080
Gender			0,622
<i>Male</i>	24 (44.4%)	28 (49.1%)	
<i>Female</i>	30 (55.6%)	29 (50.9%)	
Gestation	7 (23.3%)	4 (13.8%)	0.347
Marital Status (n,%)			0.091
<i>Single</i>	18 (33.3%)	28 (49.1%)	
<i>Married</i>	36 (66.7%)	29 (50.9%)	
BMI (kg/m²)	23.1±4	22.8±3.3	0.672
DM (n,%)	2 (3.7%)	4 (7%)	0.679
Hypothyroidism (n,%)	2 (3.7%)	2 (3.5%)	1
Hyperthyroidism (n,%)	2 (3.7%)	-	0.234
Exercise (n,%)	41 (75.9%)	23 (40.4%)	<0.001
Department (n,%)			<0.001
<i>Internal Specialists</i>	19 (35.2%)	38 (66.7%)	
<i>Anesthetists</i>	35 (64.8%)	19 (33.3%)	
Sedentary Life (n,%)	14 (25.9%)	17 (29.8%)	0.647
Macro Trauma (n,%)	2 (3.7%)	2 (3.5%)	1
Micro Trauma (n,%)	6 (11.1%)	9 (15.8%)	0.471
Emotional Stress (n,%)	22 (40.7%)	29 (50.9%)	0.284
Sleep Disorder (n,%)	40 (74.1%)	6 (10.5%)	<0.001
Posture Disorder (n,%)	32 (59.3%)	11 (19.3%)	<0.001
Beck Depression Scale	7 (1-16)	4 (0-13)	<0.001
NHP	7.9 (0-18.4)	2.6 (0-15.8)	<0.001

The values are shown in mean ± SD or N (%) BMI: Body mass index MPS: Myofascial pain syndrome
NHP: Nottingham Health Profile

Statistical Analysis

SPSS for Windows 11.5 program was used for statistical analysis. Kolmogorov Smirnov test was used to determine if the continuous variables were normally distributed. Descriptive statistics shown as mean ± standard deviation or median (min, max). Student's t test or Mann Whitney U test (for

continuous variables) and Pearson chi-square or Fisher's exact tests (for categorical variables) were used for comparing the groups, where appropriate. Mean or median values of the repetitive measurements within the each group were analyzed by using Bonferroni Correction, Multiple Comparison test and Bonferroni Correction Wilcoxon Signed Rank test, respectively. Multivariable logistic regression analysis was used to show the



effects of the risk factors on MPS. Variables which were determined as $p < 0.25$ after the single variable analysis were incorporated in multivariable models. Odd's ratio and 95% confidence interval were determined regarding each variable. A p -value of < 0.05 was considered statistically significant.

Results

There were 54 anesthetists (a mean age of 30.7 ± 3.4) and 57 internal specialists (a mean age of 29.6 ± 3.7). Clinical and demographic features of the patients were given in Table 1. MPS was significantly more frequently seen in anesthetists than internal specialists ($p=0.001$). Comparison of the demographic features, risk factors, Nottingham Health Profile and Beck Depression Scale values of the patients with and without MPS were shown in Table 2. Beck Depression Scale and Nottingham Health Profile values were significantly higher in subjects with MPS (all $p < 0.001$). Moreover, sleep and posture disorders were found to be more common in subjects with MPS (all $p < 0.001$). Logistic regression analysis with respect to the effects of the risk factors on myofascial pain syndrome shown in Table 3.

Discussion

In present study, we aimed to compare the MPS occurrence in anesthetists and internal specialists and we would like to determine if there was any association between MPS and quality of life.

According to our results; MPS occurrence was significantly higher in anesthetists. When compared the parameters in subjects with and without MPS; Beck Depression Scale, sleep and posture disorders values were significantly higher and the quality of life was significantly worse in subjects with MPS.

Mechanic factors (inappropriate posture, prolonged immobility, constitutional asymmetries, micro/macro trauma), psychosocial factors, sleep disorders, nutrition insufficiency, metabolic/endocrinological disorders have been shown to be underlying mechanisms in MPS etiopathogenesis (3,10). Nonetheless, musculoskeletal disorders are in association with work conditions -work environment, procedures, equipment and socio-psychological factors- and they may cause difficulties not only in activities of daily living but also in performing occupational tasks (11). Likewise, in our study, MPS was commonplace in anesthetists probably due to working in harder conditions than internal specialists, low temperature due to air condi-

Table 3. Logistic Regression Analysis With Respect to the Effects of the Risk Factors on Myofascial Pain Syndrome

Variables	Odd's Ratio	%95 Confidence Interval		p value
		Lower Limit	Upper Limit	
Surgeons	14.808	2.278	96.275	0.005
Age	1.184	0.968	1.448	0.099
Exercise	0.213	0.050	0.913	0.037
Beck Depression	1.405	1.090	1.810	0.009
Sleep Disorder	21.850	2.373	201.209	0.006
Posture Disorder	1.003	0.097	10.365	0.998

NHP: Nottingham Health Profile

oner in operating rooms, standing in inappropriate posture for long time periods, being stressed because of the risky operations, sleeplessness for long periods and fatigue. In the light of our results, being an anesthetist,

sleeping disorder, posture disorder and emotional status were found as risk factors.

All the aforementioned factors can easily be preventable. In the previous data, concerning the elimination of the risk factors, working ergonomics have been shown



effective for the management of musculoskeletal disorders (12-15).

We have some limitations in our study. We carried out a cross-sectional study and evaluated only neck and back region. Moreover, the sample size could be more concerning the detailed clinical parameters.

In the light of our first and preliminary results, we found that MPS is more frequently seen in anesthetists than internal specialists. Additionally, MPS is a parameter affecting the quality of life adversely. In order to achieve better quality of life, the underlying risk factors should be eliminated. Therefore, adequate ergonomic design and prevention strategies are of paramount importance. Further studies with long term follow-up including intervention and prevention strategies are awaited.

Conflict of interest: None

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