

Servikal miyofasyal ağrı sendromlu hastalarda demografik özellikler, klinik bulgular ve fonksiyonel durum

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ÖZET

Servikal bölgede miyofasyal ağrısı bulunan kişiler çeşitli klinik bulgularla karşımıza çıkabilirler. Bu çalışmanın amacı servikal miyofasyal ağrı sendromlu hastalarda demografik özellikler, klinik bulgular ve fonksiyonel durumu incelemektir. Kliniğimize başvuran 94 servikal miyofasyal ağrı sendromlu hasta değerlendirilmeye alındı. Hastalarda kısa form-36 yaşam kalitesi (SF-36), ağrı, depresyon, demografik ve fiziksel özellikler değerlendirildi. Son durum ölçütleri; SF-36 yaşam kalitesi, görsel analog skala, Beck Depresyon İndeksi, anamnez ve fizik muayeneydi. Toplamda servikal miyofasyal sendrom tanısı almış 82 hasta çalışmaya dahil edildi. Hastaların hepsi genç olup yaş ortalamaları 37.4±9 ve %87.8'i kadın idi. Hastaların %53.1'i otonomik fenomen benzeri deri kızarıklığı, lakrimasyon ve vertigo ile birlikte trapezius kasında tetik noktaya sahipti. %58.5'u önceden geçirilmiş servikal travmaya, %40.2'si fibromiyalji sendromuna ve %18.5'u benign eklem hipermobilitate sendromuna sahipti. Otonomik fenomenler ve erken başlangıçlı servikal yaralanması bulunan genç, bayan hastalar servikal miyofasyal ağrı sendromu ve bu hastalarda da fibromiyalji sendromu oranı yüksek olduğu için fibromiyalji sendromu açısından değerlendirilmelidirler.

Anahtar Kelimeler: Miyofasyal ağrı sendromu, depresyon, yaşam kalitesi, tetik nokta, kronik ağrı, fibromiyalji.

SUMMARY

Demographics features, clinical findings and functional status in a group of subjects with cervical myofascial pain syndrome

Subjects with myofascial pain of muscles of the neck region may present with various clinical symptoms. The aim of this study was to explore the demographics features, clinical findings and functional status in a group of patients presenting with myofascial pain of the cervical muscles. 94 cervical myofascial pain syndrome patients were recruited from the out-patient clinic. Evaluated of patient short form health survey (SF-36), pain, depression, patient demographics and physical examinations. Outcome measures; SF-36 Health Survey, visual analog scale, Beck Depression Inventory, history, physical examination. A total of 82 patients with a diagnosis of cervical myofascial syndrome were included in the study. All patients were in the young age group 37.4±9, and 87.8% were females. 53.1% had trigger points in the trapezius muscle with high percentage of autonomic phenomena like skin reddening, lacrimation, tinnitus and vertigo. 58.5% of the series had suffered from former cervical trauma and 40.2% also had fibromyalgia syndrome and 18.5% had benign Joint hypermobility syndrome. Younger female patients presenting with autonomic phenomena and early onset cervical injury should be examined for cervical myofascial pain syndrome and also for fibromyalgia syndrome since this study demonstrated a high percentage of fibromyalgia syndrome in these patients.

Keywords: Myofascial pain syndrome, depression, quality of life, trigger points, chronic pain, fibromyalgia.

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Introduction

Myofascial pain syndrome (MPS) is a syndrome presenting with acute or chronic regional pain originating from trigger points (TPs) localized in the muscles or the fascia. It has a high prevalence and may cause disability (Lang 2003, Meyer 2002, Simons et al 1999, Auleciems 1995, Fishbain et al 1989, Escobar and Ballesteros 1987). TPs are local points showing high irritability, sensitivity to finger pressure and causing characteristic referred pain. Autonomic phenomena, fatigue, anxiety and depression often accompany this syndrome (Simons et al 1999, Escobar and Ballesteros 1987). Diagnosis of MPS also requires the exploration causative factors (Fricton and Steenks 1996).

Active TPs are always sensitive, painful, and symptomatic, and electrodiagnostic studies have shown that TPs have spontaneous electrical activity with increased sympathetic activity of the muscle spindles. Central hyperalgesia including the sympathetic nervous system may be the reason for pain and autonomic phenomena (Wheeler 2004). Muscular tonus is increased in MPS (Winocur et al 2002, Hubbard and Berkoff 1993). Various psychological and emotional factors may cause an increase in muscular tonus and the symptoms in MPS may be related to psychological factors and emotional stress (Winocur et al 2002). MPS is usually accompanied by behavioral and psychosocial factors and is one of the main causes of chronic pain (Fricton 1991). Postural defects, muscle imbalance and skeletal deformities account for the mechanical pain of this syndrome (Thompson 2000).

MPS localized on the cervical and upper thoracic muscles is a frequent complaint and the correct diagnosis requires TPs, taut bands, muscle weakness and spasm (Kraus and Fischer 1991). MPS may present as chronic regional or diffuse musculoskeletal pain, yet the most affected areas are the neck, shoulder, extremities and the lower back consecutively (Gerwin 2001, Han and Harrison 1997). Cold skin, hypersalivation, hyperesthesia, cold sensitivity, fatigue and sleep disturbance also may accompany this syndrome which has an important impact on decreased activity level, work performance and decreased quality of life of the patients (Meyer 2002, Porta 2000, Antonelli and Vawter 1992, Simon 1990). Patients with MPS may also present with depression and somatiza-

tion symptoms, and chronic pain with decreased coping may result in disability in these patients (Raphael 2000, Bruce 1995).

The aim of this study was to explore the demographic features, the frequency of physical symptoms and clinical findings such as sleep disturbance, lacrimation, tinnitus, vertigo, skin reddening and to affect on quality of life of MPS in a group of patients presenting with myofascial pain of the cervical muscles.

Material and Methods

Ninety-four patients who visited physical therapy and rehabilitation clinic, with the complaints of neck, shoulder and back pain were included to the study. The diagnosis of MPS was made by two physicians experienced in MPS, through double blind evaluation. The diagnosis of MPS was made according to the criteria defined by Simon et al in 1999 (Simon et al 1999) (Table 1). The trapezius, sternocleidomastoid and cervical paraspinal muscles were evaluated through physical examination. Patients with myofascial trigger points in a palpable taut band of these areas were included the study. Patients having radicular pain, neurologic deficit, disc herniation, fractures, infection, malign disease, systemic disease and serious psychosis were excluded. Depression was assessed through the Beck Depression Inventory (BDI). 12 patients who had upper 18 the BDI were excluded (Simon et al 1999, Hisli 1988). After the physical examination, patients were questioned for former trauma affecting the cervico-thoracic region and for autonomic phenomena like lacrimation, reddening of the skin, tinnitus and meteorism. Sleep disturbance was recorded on a yes/no scale. Pain was assessed by Visual Analog Scale (VAS) in activity and at rest.

Table 1. Diagnostic criteria for MTrPs

1. Presence of a palpable taut band in a skeletal muscle
 2. Presence of a hypersensitive tender spot in the taut band
 3. Local twitch response provoked by the snapping palpation of the taut band
 4. Reproduction of the typical referred pain pattern of the MTrP in response to compression
 5. Spontaneous presence of the typical referred pain pattern and/or patient recognition of the referred pain as familiar
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General health status was assessed by the Turkish version of the Short Form Health Survey 36 (SF-36) by which physical function, physical strength, pain, general health, social function, emotional, energy and mental health was evaluated and recorded. Sub-scales measure the health conditions between 0 and 100 points that 0 points indicates the worst health condition, while 100 indicates the best health conditions (Ware 2000, Koçyiğit et al 1999). The ACR 1990 criteria for Fibromyalgia Syndrome (FMS) diagnosis and Brighton diagnostic criteria for Benign Joint Hypermobility Syndrome (BJHS) were used to explore the presence of these syndromes (Grahame et al 2000) (Table 2).

Table 2. Brighton diagnostic criteria for benign joint hypermobility syndrome

Major Criteria	
A.	A Beighton score of 4/9 or greater
	1. Passively dorsiflex the fifth metacarpophalangeal joint to $\geq 90^\circ$
	2. Passively appose thumb to the volar aspect of the forearm
	3. Passively hyperextend the elbow to $\geq 10^\circ$
	4. Passively hyperextend the knee to $\geq 10^\circ$
	5. Actively place hands flat on the floor without bending the knees
B.	Arthralgia for longer than 3 months in four or more joints
Minor Criteria	
	1. A Beighton score 1, 2 or 3/9
	2. Arthralgia (≥ 3 months) in one to three joints or back pain (≥ 3 months), spondylosis, spondylolysis / spondylolisthesis
	3. Dislocation / subluxation in more than one joint, or in one joint on more than one occasion
	4. Soft tissue rheumatism. Three or more lesions (e.g. epicondylitis, tenosynovitis, bursitis)
	5. Marfanoid habitus (tall, slim, span/height ratio > 1.03 , upper: lower segment ratio less than 0.89)
	6. Abnormal skin: striae, hyperextensibility, thin skin
	7. Eye signs: drooping eyelids or myopia or antimongoloid slant
	8. Varicose veins or hernia or uterine / rectal prolapse

Results

The age range of the study group was 17-62 with

a mean of 37.4 ± 9.80 . 87.8% of the group were females, 65.9% were married and 41.5% were university graduates (Table 3). The most affected muscles were trapezius (53.1%), M. sternocleidomastoid, trapezius and paraspinalis (22.2%), sternoclavicular and trapezius (21.0%), M. trapezius and paraspinalis (3.7%). Autonomic symptoms with TP palpation were lacrimation (31.7%), skin reddening (58.8%), tinnitus (35.4%), and vertigo (35.1%). FMS was diagnosed in 40.2% and BJHS was diagnosed in 18.5% of this group. 58.5% of the patients reported former cervico-thoracic trauma, 51.2% reported disturbed sleep. The mean VAS at activity was 6.67 and at rest was 4.75. The SF-36 findings are listed in table 4.

Table 3. Demographic features in patients with MPS

Parameters (n:82)	
Age/mean	37.4 \pm 9.80
Sex	72Female:10Male
Social status	
Married	54 (65.9%)
Single	22 (26.8%)
Widow	6 (7.3%)
Education	
University	34 (41.5%)
High school	17 (20.7%)
Primary education	26 (31.7%)
Uneducated	5 (6.1%)
Occupation	
Housewife	30 (36.6%)
Officer	21 (25.6%)
Student	8 (9.8%)
Retired	5 (6.1%)
Worker	2 (2.4%)
Other	13 (15.9%)

Discussion

Musculoskeletal pain is a major cause of morbidity that MPS is a common cause of back pain and neck pain (Yap 2007, Rachlin 2002). There are a high prevalence and a different prevalence of MPS in patient with regional musculoskeletal pain. The percentage of cervical pain related to MPS is reported as 56.4% (Yap 2007). Studies have reported that MPS has a higher prevalence in the females in the with an age range of 30-50y (Rachlin 2002, Buskila et al 2000, Marini et al 1999, Han and Harrison 1997). Schiffman et al. have reported this range to be 20-40y in their study (Rachlin 2002). In our study the age range was

Table 4. Short Form-36 (SF-36) with general health status

SF-36 subgroups (N:82)	minimum	maximum	mean±SD
Physical function	15.00	100.00	72.597±20.768
Role physical	.00	100.00	41.233±38.424
Pain	12.00	90.00	45.285±16.969
General health	5.00	92.00	51.500±22.830
Energy	5.00	85.00	40.844±19.591
Social status	25.00	100.00	67.045±20.470
Emotional	.00	100.00	55.411±39.959

larger (17-62) yet with similar mean of 37.4y. Sola et al. in their study have reported the frequency of TPs as 84.7% in trapezius, levator scapulae, infraspinatus and supraspinatus muscles (Sola et al 1955). Other studies report TPs frequency in suboccipital and anterior cervical muscles with decreasing order dorsal, lumbar and lower extremity muscles (Kung et al 2001, Simons et al 1999, Skootsky et al 1989). In our study we also, encountered trigger point mostly in the trapezius muscle, in the cervical region. However, although the trapezius muscle can be affected individually, an important part of it accompanies SCM muscle involvement, and it is necessary it is not overlooked. The involvement in infraspinatus and supraspinatus muscles was found to be negligible for evaluation.

Traumas have been accused of causing TP irritation, especially whiplash syndrome has been shown to be one of the causative factors of MPS (Gerwin 2001, Baldry et al 2001, Friction 1991). Magnusson, in his study has reported that 97.4% of the patients with whiplash trauma develop TPs (Magnusson 1994). Evans, in his study has reported 30.0% neck pain two years after cervical trauma in his patients (Evans 1992). In our study our findings show the occurrence of MPS after trauma in more than half our patients.

Clinical investigations have shown that patients with BJHS present with muscular spasm and TPs (Goldman 1991). Goldman reported that patients with FMS may also present with joint laxity and Hudson et al. showed the presence of soft tissue lesions as bursitis and tendinitis in more than 60% of their cases compared to 25% of the cases with FMS, which points to the fact that there is a statistically significant increase of soft tissue lesions in those with BJHS (Hudson et al 1995, Gold-

man 1991). In our series we showed that 18.5% of the series were also diagnosed as having BJHS which may correlate with results of previous studies. Our findings also show correlation with reports of Granges et al. and Gerwin et al., who reported a high percentage of MPS in cases with FMS (Gerwin 2001).

Depression often accompanies MPS (Simons et al 1999, Escobar and Ballesteros 1987). Patients with diffuse chronic pain and MPS have a higher percentage of depression and somatization symptoms compared to those without diffuse pain (Raphael et al 2000). SF-36 is very important in patients with chronic pain for the evaluation of study results. In studies conducted on patients with depression, SF-36 demonstrated very low scores. Among several medical conditions, patients with major depression showed the lowest value of quality of life. The relationship between chronic pain, depression and quality of life is complicated and has not yet been understood. The diagnosis of depression can be performed through several clinical surveys like BDI. SF-36 was found to be lower in patients having chronic pain with depression compared to patients having chronic pain without depression (Elliott et al 2003). In previous studies, it was shown that no matter what disease accompanies depression; depression has a negatively effect on the quality of life. As a result, in our study we eliminated the negative effect of depression on quality of life by evaluating the quality of life of patients without depression.

Intense pain in cases with MPS is not a frequent finding, whereas cases present with mild to moderate pain intensity and our study also shows parallelism with other studies reporting mild to moderate pain intensity as measured by VAS.

MPS of the cervical region is one of the main reasons for neck pain. Patients report with regional chronic or recurring pain accompanied by emotional changes, sleep disturbance, autonomic phenomena, fatigue and dysfunction in ADL and work performance.

In conclusion MPS of the neck region can be considered as a chronic pain syndrome in young middle aged females with former trauma to the neck region accompanied by autonomic phenomena and resulting in dysfunction in ADL and work performance. In our evaluation, the values in SF-36 subscales especially in role, pain and energy were distinctly low. The quality of life is as low as in malignant as well as in non-malignant diseases like romatoid arthritis and endometriosis, which are more carefully evaluated in clinics. Early diagnosis of MPS and aggressive treatment will prevent the negative effect that disease chronicity has on the quality of life. Patients presenting with vertigo should be examined for MPS of the neck region. Those presenting with MPS should also be examined for FMS and BJHS since these three syndromes may be present in a single clinical picture. There is also a possibility of MPS to evolve into FMS so patients with MPS of the neck region should be closely monitored and followed up for early diagnosis and treatment.

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