

Assessment of role of physiotherapy in diagnosis and treatment of the Myofascial Pain Dysfunction syndrome

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ABSTRACT:

Background: Patients of MPDS present with varying degrees of unilateral facial pain, masticatory muscle tenderness, joint crepitation and limitation of mandibular movement. The present study was conducted to assess role of physiotherapy in diagnosis and treatment of the Myofascial Pain Dysfunction syndrome.

Materials & Methods: 80 patients with Myofascial Pain Dysfunction syndrome of both genders were divided into 2 groups of 40 each. Group I patients were treated with passive movement and group II with relaxation. Resisted static contraction for opening, closing, protrusion and lateral movement were performed on all patients by instructing the patient to attempt these movements against the resistance of the operator's hand so that temporomandibular joint movement is minimal. This test is positive if pain was reproduced in the muscle being statically contracted. The masseter, temporalis, medial and lateral pterygoid were palpated bilaterally on all patients at both the attachments and muscle bellies for assessment of tenderness.

Results: In present study, out of 80 patients, males were 35 and females were 45. Resisted static contractions showed pain in 12% and no pain in 82%, on palpation, 30% had pain and 70% had no and on EMG, spasm was present in 20% and no spasm in 80%. The difference was significant ($P < 0.05$). Symptom-free or occasional pain was seen in 65% in group I and 76% in group II. Little or no improvement was seen in 35% in group I and 24% in group II. The difference was significant ($P < 0.05$).

Conclusion: Physiotherapy found to be effective in management and treatment of patients with myofascial pain dysfunction syndrome.

Key words: Joint pain, myofascial pain dysfunction syndrome, Physiotherapy

I. INTRODUCTION

Patients suffering from the Myofascial Pain Dysfunction syndrome of the masticatory system are a common problem in oral surgery.¹ Patients present with varying degrees of unilateral facial pain, masticatory muscle tenderness, joint crepitation and limitation of mandibular movement.

The literature suggests that essentially all treatments tried, including placebos, provide some degree of improvement.² However, previous research has rarely provided controlled group outcome studies to determine the relative efficacy of treatment methods. Furthermore, there has been confusion in past research due to the use of a classification scheme which requires only the presence of any one or more symptoms associated with the MPD syndrome.³

Physiotherapists have long been associated with orthopedic surgeons in the management of musculo-skeletal disorders.⁴ MPDS is clearly a musculo-skeletal disorder involving the temporomandibular joints, jaws and associated masticatory muscles. In particular, physiotherapeutic tests can be used to localize the probable source of pain.⁵ Positive

responses to resisted static contraction tests, palpation for tenderness and electromyography, indicate pain arising from muscle tissue whereas positive results from passive physiological and accessory movement tests indicate pain arising from joint structures.⁶ The present study was conducted to assess role of physiotherapy in diagnosis and treatment of the Myofascial Pain Dysfunction syndrome.

II. MATERIALS & METHODS

The present study comprised of 80 patients with Myofascial Pain Dysfunction syndrome of both genders. All were enrolled with their written consent.

Demographic data such as name, age, gender etc. was recorded. Patients were divided into 2 groups of 40 each. Group I patients were treated with passive movement and group II with relaxation. Resisted static contraction for opening, closing, protrusion and lateral movement were performed on all patients by instructing the patient to attempt these movements against the resistance of the operator's hand so that temporomandibular joint movement is minimal. This test is positive if pain was reproduced in the muscle being statically contracted. The masseter, temporalis, medial and lateral pterygoid were palpated bilaterally on all patients at both the attachments and muscle bellies for assessment of tenderness. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

III. RESULTS

Table I Distribution of patients

Total- 80		
Gender	Males	Females
Number	35	45

Table I shows that out of 80 patients, males were 35 and females were 45.

Table II Masticatory muscle tests

Parameters	Resisted static contractions		Palpation		EMG	
	Pain	No pain	Tender	No tender	Spasm	No spasm
Number	12%	82%	30%	70%	20%	80%
P value	0.01		0.02		0.01	

Table II shows that resisted static contractions showed pain in 12% and no pain in 82%, on palpation, 30% had pain and 70 % had no and on EMG, spasm was present in 20% and no spasm in 80%. The difference was significant ($P < 0.05$).

Table III Treatment outcome

Outcome	Group I	Group II
Symptom-free or occasional pain	65%	76%
Little or no improvement	35%	24%
P value	0.05	0.04

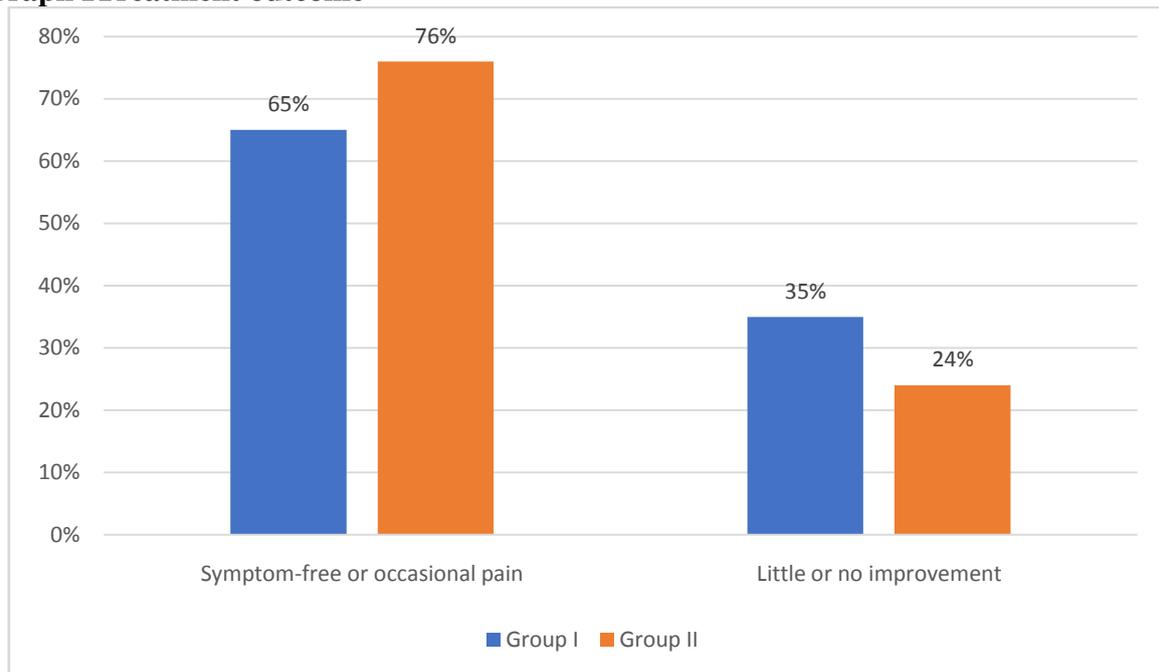
Graph I Treatment outcome

Table III, graph I shows that symptom-free or occasional pain was seen in 65% in group I and 76% in group II. Little or no improvement was seen in 35% in group I and 24% in group II. The difference was significant ($P < 0.05$).

IV. DISCUSSION

Numerous etiologies for MPDS have been proposed. Some hypotheses implicate the temporomandibular joint, either by hypermobility or inflammation.⁷ More recent hypotheses implicate localized areas of muscle hypertonicity or spasm as the cause of the pain and dysfunction.⁸ The muscle spasm maybe as a result of local factors, especially malocclusion¹⁰ or from generalized psychogenic or stress factors.⁹ Numerous treatments, either single or in combination, have been proposed in accordance with the various etiologic theories. It has been found that a wide range of pharmacological, occlusal alteration, surgery and psychotherapeutic treatments will result in relief of symptoms in 70-80 % of cases.¹⁰ The present study was conducted to assess role of physiotherapy in diagnosis and treatment of the Myofascial Pain Dysfunction syndrome.

In present study, out of 80 patients, males were 35 and females were 45. In a study by Trott et al¹¹ thirty-four patients with the Myofascial Pain Dysfunction syndrome of the masticatory system were investigated and treated using physiotherapy techniques. Resisted static contraction of the temporomandibular joints, passive movement tests of the muscles and electromyography indicated that the joint function was abnormal in all cases with minimal muscle involvement. Cervical spine tests indicated that pain referral from the cervical spine was involved in 19 of 34 patients (56 %). Physiotherapy treatment aimed at restoring a normal painless range of movement to the temporomandibular joint was successful in six of 10 patients (60 %). Generalized relaxation therapy with biofeedback was successful in 19 of 24 patients (80 %). It was found that with the five of 24 patients (20 %) in whom generalized relaxation failed, there were significant psychiatric factors.

We observed that resisted static contractions showed pain in 12% and no pain in 82%, on palpation, 30% had pain and 70 % had no and on EMG, spasm was present in 20% and no spasm in 80%. Crockett et al¹² included twenty-one females meeting specific criteria were randomly assigned to one of three treatment conditions." a dental splint and physiotherapy

program; a relaxation program utilizing progressive muscle relaxation, biofeedback, and stress management techniques; or a minimal treatment program involving transcutaneous electrical nerve stimulation. Improvement was assessed through a dental examination, self-monitoring of pain, and an assessment of EMG activity during resting and task conditions. Significant changes were obtained in response to all treatment programs. The treatment programs differed only in the relative pattern of treatment effects obtained from the self-report monitoring of pain. The data are consistent with the concept of MPDS as a psychological response to stress which maintains chronic pain through increased muscle tension in the jaw.

We observed that symptom-free or occasional pain was seen in 65% in group I and 76% in group II. Little or no improvement was seen in 35% in group I and 24% in group II. Nicolakis et al¹³ included twenty consecutive patients suffering from myofascial pain dysfunction (MPD) were assigned to a waiting-list, serving as a no-treatment control period. The following main outcome measures were evaluated: (i) pain at rest, (ii) pain at stress, (iii) impairment, (iv) mouth opening at base-line, before and after treatment and at 6-month follow-up. All patients completed the study and no adverse effects occurred. During control period no significant changes occurred. Pain at stress, impairment and incisal edge clearance improved significantly. This result did not change until follow up, except pain at stress, which further improved significantly. At follow up 16 patients experienced no pain at all, 13 patients were not impaired and only three patients had a restricted mouth opening, in contrast to 12 before treatment. Exercise therapy seems to be useful in the treatment of MPD Syndrome.

V. CONCLUSION

Authors found that physiotherapy found to be effective in management and treatment of patients with myofascial pain dysfunction syndrome.

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