

Effects of interventions using myofascial release techniques on range of motion and strength in patients with shoulder myofascial pain syndrome

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근막이완기법이 어깨통증증후군 환자의 통증과 근력에 미치는 영향

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요약

This study investigated the effects of myofascial release and resistance exercise on range of motion and muscle strength in patients with shoulder myofascial pain syndrome. The results showed significant improvements in both groups, with the myofascial release group demonstrating greater improvements compared to the self-myofascial release group. The study concluded that further randomized controlled trials are needed to better understand the contributing factors to the effectiveness of these treatments.

1. Introduction

Shoulder myofascial pain syndrome is a common condition that affects 30% to 90% of patients with shoulder pain and is characterized by a decreased range of motion and muscle weakness. This study aimed to investigate the effects of resistance exercise and myofascial release on the range of motion and muscle strength in patients with right shoulder myofascial pain syndrome.

2. Method

Ten patients with right shoulder myofascial pain syndrome participated in a randomized controlled trial. Participants were assigned to the myofascial release and resistance exercise (MFR) group (n=5, male: 3, female: 2) and self-myofascial release and resistance exercise (SMFR) group (n=5, 3 males, 2 females). The participants in the MFR group were randomized to receive myofascial release and resistance exercises for 50 minutes twice a week for 4

weeks, while participants in the SMFR group were randomized to receive self-myofascial release and resistance exercises for 50 minutes twice a week for 4 weeks. Range of motion (ROM) was measured using an goniometer, and strength was measured using a digital dynamometer.

3. Results

Both the MFR group and SMFR groups showed significant improvement in range of motion and strength after 4 weeks ($P<0.05$), and the MFR group had significantly better ROM and muscle strength than the SMFR group ($P<0.05$, Table 1).

4. Conclusion

This study confirmed that myofascial release and elastic band resistance exercises led to significant improvements in range of motion and muscle strength in patients with

shoulder myofascial pain syndrome. However, further randomized controlled trials (RCTs) are needed to better understand the factors that contribute to the success of treatment with myofascial release and resistance exercises.

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Acknowledgement: This was supported by Korea National University of Transportation in 2024.

[Table 1] Comparison of balance and gait ability(N=26)

Parameters		MFR group (n=5)	SMR group (n=5)	t	P
ROM (degree)	Pre	31.60±1.94	31.4±4.03		
	SER Post	43.00±2.23	36.4±3.57		
	change	11.40±0.54 (36.07)*	5.00±0.70 (15.92)*	-2.449	.014
SIR	Pre	70.20±3.11	70.80±2.58		
	SER Post	81.60±3.28	80.60±1.14		
	change	11.40±0.54 (16.23)*	9.80±1.78 (13.84)*	1.912	.117
Strength (newton)	Pre	125.70±11.66	130.31±18.26		
	SER Post	148.40±12.33	140.99±16.34		
	change	22.69±1.58 (18.05)*	10.68±3.75 (8.19)*	6.586	.001*
SIR	Pre	112.59±9.82	115.08±13.35		
	SER Post	132.34±13.51	128.81±11.23		
	change	19.75±4.47 (17.54)*	13.72±2.76 (11.92)*	2.566	.001*

Note. Values are expressed as mean±SD (%)

MFR group: myofascial release and resistance exercise, SMFR group: self-myofascial release and resistance exercise, SER: shoulder external rotation, SIR: shoulder internal rotation

* : significant differences between pre- and post-test, p<0.05

* : significant differences for change value between two groups, p<0.05

참고문헌

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