

Therapeutic Effect of Mental Imagery on Phantom Limb Pain in Patient with Shoulder Disarticulation

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Background

The majority of lower limb amputations are performed in cases of vascular insufficiency. However, the upper limbs amputation typically Result from traumatic injury and are characteristically sustained by young adults in good health. Phantom limb pain (PLP) are common amongst individuals with acquired upper limb amputations. Despite these rates of prevalence, there are neither recognized standard guidelines nor clear-cut pharmacologic or non-pharmacologic procedures to treat this pathologic condition and unfortunately phantom limb is often refractory to many treatments. The mental imagery or phantom exercises, are very practical, and do not require any clinical equipment. The fact that this Method could be used almost anytime and anywhere as it is a relatively simple an inexpensive Method that patients learn quickly. There has been a little reports about the therapeutic Results of mental imagery on PLP. We reported our experience that the effect of mental imagery on the PLP in patient with shoulder disarticulation.

CASE REPORT

A right-handed 24-year-old male patient underwent left shoulder disarticulation surgery secondary to traffic accident Resulting in a poor blood supply to entire left arm. The residual limb/shoulder girdle had healthy skin without scar or graft tissue. The patient was fitted a passive prosthesis with harness (Figure 1) for suspension considering his independence without prosthesis. He complained abnormal sensation on amputated arm. He did not respond to any pharmacological therapy. We planned mental imagery therapy program. The therapy program was made to reduce PLP. It had been enforced with mirror therapy & imagery treatment, six times a week and went through a 40-minute treatment period. The patient learned to concentrate on sensations from each area of the body consecutively, including the phantom arm and hand. He had a 10 minutes relaxing time before starting the therapy program (mental imagery treatment, mirror therapy) and did therapy session for 30 minutes to make a movement of amputated limb. We supplied therapy program consists of 8 movements to make various movement and offered some Objects (e.g. stacking cone, tennis ball) to the client to make grasp pattern easily (Figure 2). Daily, we checked pain intensity was assessed by Numerical rating scale (NRS): to measure intensity of pain (0 = no pain to 10 = worst pain imaginable) and also, we obtained the information about pain nature and pain site by questionnaire (Table 1). After program, the pain site was localized on the distal part of arm and pain intensity was improved from NRS 7 to 2.

Conclusion

We think that the mental imagery program is a good potential adjunct to current treatment Methods to improve the PLP in patient with shoulder disarticulation.

Table 1. The Results of pain questionnaire

Session	time	Pain site	Pain nature	Pain intensity
First session	1week	Dorsal, Palm, Forearm	Compressive, cramping sense	7
		Dorsal, Palm, Elbow(medial)		7
		Dorsal, Palm, Elbow(medial)		7
		Dorsal, Palm		6
		Dorsal, Palm, Elbow(above)		6
		Dorsal, Palm, Forearm		5
		Palm		6
Secnd session	2week	Dorsal, Palm	Compressive, cramping sense	6
		Wrist		7
		Dorsal, Palm		6
		Dorsal, Palm		5
		Dorsal, Palm, Elbow(medial)		5
		Dorsal, Palm, Wrist		5
		Dorsal, Palm		4
	3week	Palm, Wrist	Compressive, cramping sense	4
		Palm, Dorsal (thumb~index)		3
		Dorsal		3
		ulnar part(dorsal&ventral)		4
		Palm		3
		Palm, Forearm (lateral)		3
		Dorsal, Palm, Elbow(medial)		3
Last session	4week	Palm	Compressive, cramping sense	3
		fingers, radius part (medial)		3
		Palm		2
		Palm(Thumb part), Elbow(medial)		2
		Dorsal, Palm,		2
		Palm(Thumb part)		2
		Palm, Dorsal (Thumb, Little finger part)		2



Figure 1. Clinical presentation of shoulder disarticulation and passive prosthesis with harness for suspension



Figure 2. Mental imagery program on the phantom limb pain