The New Iraqi Journal of Medicine
The Official Journal of The Iraqi Ministry of Health

Volume 2 Number 1 March 2006

The New Iraqi Journal of Medicine has agreed the use of the uniform requirements of manuscripts submitted to biomedical journals published by the INTERNATIONAL COMMITTEE OF MEDICAL JOURNAL EDITORS (ICMJE) and it's the first Iraqi peer-reviewed medical journal listed by the ICMJE journal list. The first two issues of this journal appeared under the title of Al Karkh Journal of Medicine.

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Indexed by Copernicus Index Journal Master List and EMR index Medicus
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The phantom limb

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Abstract

Background: Phantom limb (PL) is the subjective sensation that an amputated limb is still present and sometimes referred to as stump hallucination, but often, they are very painful, resulting in another condition called phantom pain. The aim of this study is to study the clinical experience with phantom limb and to evaluate the value of medical and psychological treatment.

Patients and methods: 163 amputated patients were selected randomly at Baghdad Handicapped Centers, Al-Rasheed Military hospital, and Middle Euphrates Handicapped Centers and Al Najef General Hospital. 134 (82%) were males and 29 (18%) were females. Their age ranged from 15 to 68 years. Demographic, social and clinical data were collected by medical personal through a clinical interview.

Results: 91% of the amputees were in the lower limb and the majority. 45% of amputations were below knee, 27% were above knee and 20% were through the ankle joint. 66% of amputations were caused by war injuries, 22% were caused by accident and 12% were caused by disease. 119 patients (73%) have phantom limb phenomena (PLP) since the amputation and 18 patients (11%) developed it after a while. 84% of our sample suffered from PLP. The duration of PLP varies from few days up to 5 years.

Key words: amputation-phantom limb

Introduction

Phantom limb (PL) is the subjective sensation that an amputated limb is still present and sometimes referred to as stump hallucination, but often, they are very painful, resulting in another condition called phantom pain. A painful phantom may persist indefinitely and cause much distress. The French surgeon Ambroise Pare first coined the term phantom limb in the sixteenth century, later Silas Weir Mitchell (American neurologist) described phantom pains during the Civil War 1872.[1,2] When a condition or an accident occurs that causes a limb to be severed or to be removed surgically, there is a good chance of phantom sensation and pain. Sensation from an amputated limb can manifest themselves in many different ways such as sensation of touch. Sometimes an amputee is able to feel their arm resting on a table, their fingers able to feel the texture of the table or they can feel the absent limb in movement possibly reaching for a glass. Associated complaints of tingling, prickling and shooting pains have been reported. Some patients experience a pain they had previous to the amputation, such as an in growing toenail.
The pain is not usually constant [3]. It is widely accepted that over 90% of all patients have some sensation after surgery or accident [4]. The actual pain and sensation has to deal with the thalamus and the memory of feeling the limb from the past. Eighty percent of all amputated patients experience phantom pain or a sensation. [5] Sherman et al. have reported that amputees reluctant to divulge their complaints of phantom limb pain for fear of being labeled insane [6]. When a person's limb gets amputated, the severed nerves in the stump grow into nodules called neuromas. Early physicians believed that the neuromas fired randomly, sending signal, to the spinal cord to the thalamus and then to the somatosensory cortex, eventually causing the phantom limb sensations including the phantom pain. Drugs have been tried in PL include Beta blockers, CNS serotonin agonists, the tricyclic antidepressants and Calcitonin [4]. Melzack reported that neurosurgical treatment of the dorsal column stimulation procedure” in which electrodes are implanted surgically in the spinal cord may work for a while, but pain often returns”[7].

Patients and methods: 163 amputated patients were selected randomly at Baghdad Handicapped Centers, Al-Rasheed Military hospital, and Middle Euphrates Handicapped Centers. and Al Najef General Hospital. 134 (82%) were males and 29 (18%) were. Females Their age ranged from 15 to 68 years. Demographic, social and clinical data were collected by medical personal through a clinical interview. 141 patients (87%) were married, the other 22 (13%) were single.

Results: 73 patients (45%) have below knee amputation, 44 patients (27%) have above knee amputation, 32 patients (20%) have through ankle amputation, 4 patients (2%) have above elbow, 4 patients (2%) have below elbow amputation, and 6 (4%) have other types of amputation. Figure (1). In 107 patients (66%) the amputation were caused by war injury, in 36 patients (22%) caused by accident, and in 20 patients (12%) caused by disease. Figure (2) shows the causes of amputation. 137 patients (84%) got phantom limb phenomena, 119 of them since the amputation while 18 patients got it after a while. The duration of the phantom limb phenomena ranged from few days to more than 5 years. Table (2) shows the onset of the delayed PLP.

| No. of patients | Duration            |
|-----------------|---------------------|
| 90              | Less than 1 year    |
| 36              | 1 - 5 years         |
| 5               | More than 1 year    |
| 6               | Intermittent        |
| Total 137       |                     |
Figure (1): Types of Amputation

| Type of amputation | Percentage |
|--------------------|------------|
| Below knee         | 45%        |
| Above knee         | 27%        |
| Through ankle      | 20%        |
| Below elbow        | 2%         |
| Above elbow        | 2%         |
| Others             | 4%         |

Figure (2): Causes of amputation.

| Causes of amputation | Percentage |
|----------------------|------------|
| By war               | 107; 66%   |
| By accident          | 36; 22%    |
| By disease           | 20; 12%    |

Table (2) shows the onset of the delayed PLP.

| No. of patients | Onset           |
|-----------------|-----------------|
| 5               | After 1 - 6 months |
| 9               | After 1 year     |
| 4               | More than 1 year |
| TOTAL 18        |                  |

108 patients asked a general practitioner for treatment of their condition with 22 patient of them consulted psychiatrist later. Table (3) shows the response to treatment.

| Table (3): Response to treatment |
|----------------------------------|
| Treatment provided by            | No. of patients | Response          |
| General practitioner             | 27              | Complete resolution |
|                                  | 49              | Partial improvement |
|                                  | 32 (Total 108)  | No benefit        |
| Psychiatrist                     | 2               | Complete resolution |
|                                  | 15              | Partial improvement |
|                                  | 5               | No benefit        |
| TOTAL 22                         |                  |

Discussion

In this series the majorities (66%) of amputees were caused by war injuries because our country was involved in successive wars since 1980 till now, while other causes of amputees were accidental in 22% and 12% were caused by disease process. The incidence of PLP among amputated patients in this series was 84%, However the previously reported incidence was inconsistent and ranging from 0.5 to 97% [4, 5]. The relatively high percentage above reflect that our Iraqi patients feel no fear or shame about having PLP because it is not considered as stigma (being labeled as insane), and this type of compliant was acceptable socially. So they differ from
other people who reluctant to divulge their complaint. [5].

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