

58 - ANALYSIS OF CHARACTERISTICS OF PAIN IN PHANTOM LOWER LIMP AMPUTATIONS

FERNANDA CRISTINA BRANDINI

JOSÉ MOHAMUD VILAGRA

FAG – FACULDADE ASSIS GURGACZ - CASCAVEL - PARANÁ - BRASIL

fernanda_brandini@hotmail.com

INTRODUCTION

Amputation is a word derived from Latin with the meaning of *envir* = around / around and *putatio* = pruning / removal, as removal, usually surgery, all or part of a bodily member, thereby introducing a reconstructive process of an end without function or limited function. (CARVALHO, 2003).

Among the causes of lower limb amputations are the major vascular disorders, especially diabetes mellitus (DM), peripheral vascular disease, trauma and malignancy that is the main disease responsible for the bilateral amputation. (CARVALHO, 2003).

It is understandable for an individual amputee who removed a limb or part of it, often feeling isolated with shame and fear of society, changing your routine life and becoming an individual before included in society, now broken by their mutilation but an amputation should not be considered as the end, since most people who suffer from vascular problems, trauma, tumor, infection, will decrease your pain and start a new phase of life. (Boccolini, 2000)

According to Brito (2003), among the vascular diseases, the main related to the amputations is peripheral arteriosclerosis obliterans, a disease that has irreversible risk factors such as aging, and risk factors reversible or capable of monitoring, such as hypertension, diabetes mellitus, dyslipidemia, smoking, obesity and inactivity.

According Boccolini (2000) and Carvalho (1999), there are twelve levels in the lower limb amputations, where levels are more common transtibial amputation occurring through a tibiotarsal and knee disarticulation, which were divided into three levels, transtibial amputation in proximal, middle, and distal and transfemoral place between the knee and hip disarticulation also divided into three levels proximal, middle and distal, being of extreme importance that the surgeon attempt to preserve the lower level of amputation possible with satisfactory results for the patient and the resolution of your problem.

The need to preserve greater amount of tissue, ie for the more distal amputation, is related to the energy expenditure of the patient to perform maneuvers, so the dentures fit more easily and financial costs may be lower with a faster return the amputee to social life and professional (Santos and Nascimento, 2003).

One of the main problems associated with amputation is related to the perception of a phantom limb almost immediately after the amputation, he was usually described as a real need of the member disappeared. This ghost is to be produced by the absence of nerve impulses from the State. When a nerve is cut, produces a violent discharge of the lesions in all types of fibers. This excitement quickly diminishes and sectioned nerve becomes silent, until new nerve endings start to grow. This implies that the CNS accounts for the lack of normal flow. (Sousa, et al, 2004).

According to Cavalcanti (1994), the removal of a member places the patient in front of many problems, neglect and allow the patient to ignore them. All efforts should be addressed to explain reality with honesty and the need for surgery and verify the acceptance and understanding, ensuring the necessary precautions to face the difficulties that come after the surgical process.

According to Benedetto et al (2002) and Olivier (1995) we are a body schema, defined as an awareness of formal subjects in their world of feelings, or even a way to express that my body is in the world. " through the body where experience is that it consolidates the consciousness of the physical self, the basic point of the structure of personality, because from our body to perform our first contacts with the world, with others and through the experience of others is that would make possible the perception of self, ie the fundamental core of personality and it is from this that all behaviors are organized and conducts self-consciousness, is what determines the world's conscience.

According to Ephraim et. al. (2003), the patient who undergoes a surgical procedure for removal of members with modifications in their life, were directly affected their behavior and their way of acting. Patients with lower limb amputations are challenged to adjust psychologically to some extent the loss of this member, adjusting to physical disabilities, can become incapacitated, affecting their health and well-being.

Ambroise Pare (1552) defines the sensation of phantom pain as something wonderfully strange and miraculous, it would be hard to believe (except by those who saw with their own eyes and heard with his own ears) that patients complain bitterly of several months or years after amputation, they still feel pain too strong an already amputated limb (cited PROBSTNER and Thule, 2006.)

According to Sullivan and Schmitz et. al. (1993), most amputees experience phantom limb pain, being reported as feeling of pressure and tingling, numbness and sometimes, it ASAP Carvalho (1999), patients report pain too strong already amputated limb, invoking emotions and fantasies that reflect the suffering, uncertainty and fear of failure.

Phantom pain refers to a phenomenon much studied but still little known, where the patient has the experience of an unpleasant sensation in the surgically removed. The incidence found in various studies ranges from 2% to 97%, and the pain usually appears during the first week after amputation and persists for months or even years. Usually it is located distally in the phantom limb (hand, foot and calf) and is defined as a tightness (SAKAMOTO, 1995).

The sensation of the presence of limb or organ after its removal is described by almost all patients who underwent amputation and often are associated with pain that varies in intensity and duration, can be defined as a member of numbness, burning, cramp, twinge, illusion of the members present or just the feeling of his existence, which for many causes fright, anxiety and difficulty connecting with a feeling that they have a member missing, causing a change in their emotional and psychological state is not aware of this disease called phantom sensation or pain that may accompany the individual amputee long. FISHER (1991).

According Lains and Paixão (1989) among the amputees there are reports of phantom sensation so sporadically that they deny suffering from a painful phantom limb. Others suffer recurrent pain, ranging from some crises of daily life, to one each week or fortnight, although others have continued pain that varies in quality and intensity. She is described as burning or crushing, or non-precious points in the phantom limb may persist long after the healing of damaged tissues, since the pain is related to a faulty regeneration of nerves in the body, which can form neuromas. Sometimes the pain may resemble that was present prior to

amputation.

The phantom pain in amputees may represent an attempt to feel the individual is still intact, denying the amputation, but does not seem a suitable alternative and productive, because, besides being a false perception of itself that causes the damage in the rehabilitation patient, amputation was shown at all times to the individual. (TEIXEIRA et al, 1999)

The quest for rehabilitation and improved quality of life causes the amputee needs the skills of a physiotherapist who works through a dynamic, creative and progressive, educated and aimed at restoring the individual to returning their self-esteem, quality of life and proposing to interact with society again, assisting in their correct fitting and rehabilitation. (CARVALHO, 1999).

METHODOLOGY

This study was characterized by a field research to be quantitative, with purposive samples and epidemiological cross-sectional. This sample was composed of 25 patients treated at the Rehabilitation Center of Assisi School Gurgacz - FAG, regardless of age and sex. The Inclusion criteria for participation in the survey were the completion of rehabilitation in physical therapy clinical inter FAG, the presence of phantom sensation due to amputation, transtibial amputation levels tranfemorais and lower limbs, time availability for participation in research and signature of expiry of consent and the exclusion criteria were patients who did not agree with the signing of the consent, or difficulty hearing and cognitive impairments, no time available for research participation and levels of amputation are not related the transtibial and transfemoral. The survey was conducted in the Faculty of Integrated Clinical Assis Gurgacz in the months of July and August 2010.

Data collection was through the direct application of a questionnaire formulated by the researcher, consists of 11 open questions and easy to understand who answered the main objective of this study. The application of this instrument was made after approval No. 198/2009, research by the Ethics in humans.

Participants in the study were solicited directly by the researcher, where he explained the purpose and methodology of research, data collection during the doubt presented by the patients were informed by the researcher and the questionnaires did not interfere in the opening hours and visits to the rehab center being applied in the same intervals as the availability of participants. It was first introduced the term informed consent to patients, and they agreed to participate in the survey agreed to sign with responsibility, then they were asked about the phantom pain and responded to the questionnaire submitted by the researcher directly and individually. In order to avoid that the research it generates some kind of embarrassment to the patient at the time of the questionnaire were adopted protective measures to preserve the identity of research participants, as well as professional ethics, patient-therapist relationship.

The data collected were tabulated and analyzed using SPSS 15.0.

RESULTS AND DISCUSSION

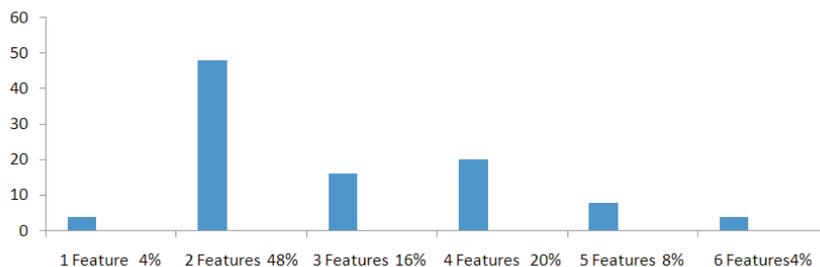
The data obtained from the research sample found that of 25 patients with unilateral lower limb amputations female and male. The minimum age was found to be 15 years and a maximum of 75 years with an average of 58.02% among men and at least 40 years and maximum of 81 years with an average of 57.40% among women.

Regarding the level of lower limb amputation 68% relate to transtibial amputation and 32% transfemoral, data similar to those found in Steimberg et al (1985), performed with 96 amputees where 66 participants or 68% also had transtibial amputation and 30 participants 32% transfemoral, and Buttenshaw et al. (1992).

This study also found that 80% of participants are male and only 20% female data are similar to those found in the study as of Guarino et al (2007), conducted through a survey of medical records of patients seen Group of Amputations and Prostheses (GAP), Department of Orthopedics and Traumatology, UNIFESP - Lar, between 1999 and 2005, where the population was 78 participants and these 61 (78.2%) were male, 17 (21.8%) females, other studies such as Seidel, et al (2008) and Cassefo, et al (2003), also have direct relation with the data obtained in this way and saw that even this sample having a higher percentage of males in relation to other studies, all confirm that the rate of lower limb amputation is more evident in the male population.

Regarding the etiology of amputation were found to relate results in 60% with vascular causes and 40% traumatic as the data submitted by Guarino, et al (2007), and the vascular etiology accounts for 62.8% of amputations, trauma occurred in 28.2% of cases and infections they occurred in 6.4% of patients and tumors 1.3%, thus confirming the results found in this study that links lower limb amputations with 60% and 40% vascular etiologies traumatic. According to Fisher (1991), Sakamoto (1995), Souza, et al (2004) and Probstner and Thuler (2006), the sensations of phantom pain may appear soon after amputation or some time thereafter, often staying for months or even years, as characterized in this study at reports of persistence of phantom pain for periods ranging from 50 to 60 months with a mean of 15.23 months. In the present study compared the characteristics attributed to phantom pain, some participants reported more than a feeling, but these are not mutually exclusive data, where one participant (4%) reported a characteristic, 12 participants (48%) 2 features, 4 participant (16%) 3 features, five participants (20%) 4 characteristics, participant 2 (8%) 5 features and one participant (4%) 6 characteristics as presented in Figure 1.

Chart 1: Number of Characteristics for Patients



Among all the characteristics reported by participants exhibited the greatest number of reports were tingling with 16 reports, 12 reports with the sting, all results are presented in detail in Table 1.

Table 1: Characteristics of Phantom Pain

FEATURES	NUMBERS OF REPORTS
Tingling	16 patients
Pang	12 patients
Pulse	9 patients
Cramps	7 patients
Burns	7 patients
Telescoping	7 patients
Intense Pain	4 patients
Blazing	3 patients
Grip	3 patients
Compression	3 patients
Swelling	1 patients
Shock	1 patients
Itch	1 patients
Mild pain	1 patients

Since similar results are also shown in studies of Sullivan and Schmitz (1993), Sakamoto (1995) and Fisher (1991), thus confirming that phantom pain is presented with different characteristics can present themselves in a unique or associations.

CONCLUSION

From the results obtained in this study we can say that for the population tested the phantom sensation is characterized by multiple signs and symptoms, ie each individual recounts this experience in a fantastically hard to explain, presenting more frequently associated with a characteristic, and the main ones are tingling, and pulsation in the pit. Thus this study supports for physical therapy interventions in the rehabilitation process aimed at identifying those characteristics of phantom pain and allow treatment to meet the need and the desired goals for the treatment of amputees suffering from phantom pain.

REFERÊNCIAS

- BENEDETTO, K. M.; FORGIONE, M. C. R.; e ALVES, V. L. R., **Reintegração corporal em pacientes amputados e a dor fantasma**. Ata Fisiátrica 2002.
- BOCOLINI, F. **Reabilitação - Amputados, Amputações e Próteses**. 2. ed., São Paulo: Robe, 2000.
- BRITO, C. M. M. **Reabilitação de Amputados de Membros Inferiores Epidemiologia e Apresentação de Casos Clínicos: Aspectos Funcionais e Abordagem Terapêutica**. Congresso de Telefisiatria, 2003.
- BUTTENSHAW P, DOLMAN J. **The Roehampton approach to rehabilitation: a retrospective survey of prosthetic use in patients with primary unilateral lower-limb amputation**. Top Geriatr Rehabil, 8(1):72-8, 1992.
- CARVALHO, J. A. **Amputações de Membros Inferiores em busca de Plena Reabilitação**. 1. ed., São Paulo: Manole, 1999.
- CARVALHO, J.A. **Amputações de membros inferiores**. 2. ed., São Paulo: Manole, 2003.
- CASSEFO, V. et al. **Perfil epidemiológico dos pacientes amputados do Lar Escola São Francisco – estudo comparativo de 3 períodos diferentes**. ACTA fisiátrica, v. 10, n. 2, p. 67-71, 2003.
- CAVALCANTI, M. C. T. **Aspectos emocionais no pré-operatório em amputação de membros**. Jornal Brasileiro de Psiquiatria, 43 (3): 159-161, 1994.
- EPHRAIM, P.L.; DILLINGHAM, T.R.; SECTOR, M.; PEZZIN, L.E. e MACKENZIE, E.J. **Epidemiology of Limb Loss and Congenital Limb Deficiency: a review of the literature**. Arch. Physical Med. Rehabilitation, 84, 747-761, 2003.
- FISHER, A, MELLER, Y. **Continuous postoperative regional analgesia by nerve sheath block for amputation surgery ± a pilot study**. Anesth Analg 1991.
- GUARINO, P. et al. **Retorno ao trabalho em amputados dos membros inferiores**. ACTA fisiátrica, v. 14, n. 2, p. 100-103, 2007.
- LAÍNS, J., & PAIXÃO, R. **Algumas considerações sobre os fatores psicológicos da amputação**. Arquivos Reumatologia, 11, 393-402, 1989.
- OLIVIER, G. G. de F.; **Um olhar sobre o esquema corporal, a imagem corporal, a consciência corporal**. Dissertação de Mestrado, Campinas, Faculdade de Educação Física, Unicamp, 1995
- PROBSTNER, D; THULER, C; **Incidência e prevalência de dor fantasma em pacientes submetidos à amputação de membros: revisão de literatura 395**. Revista Brasileira de Cancerologia, 52 (4): 395-400, 2006.
- SAKAMOTO, H. **Dor Pós-amputação – Abordagem Terapêutica**. Acta Fisiátrica. 2 (1): 7-10, 1995.
- SANTOS, C. A. S. e NASCIMENTO, P. F. T. **Debridamentos e Amputações Angiologia e Cirurgia Vascular: guia ilustrado** Maceió: Uniscal/Ecmal & Lava, 2003.
- SEIDEL, A. M. et al. **Epistemologia sobre amputações e desbridamentos de membros inferiores realizados no Hospital Universitário de Maringá**. J. Vasc. Bras., v. 7, n. 4, p. 308-315, 2008.
- SULLIVANS, S.B.; SCHMITZ, T.J. **Fisioterapia: Avaliação, Tratamento**. 2. ed. São Paulo: Manole, 1993.
- SOUZA, F. P.; OLIVEIRA, C. C.; MAUGIN, C.; OLIVEIRA, E. C. F.; MELO, F. D. P.; SULLIVAN; e SCHMITZ. **Fisioterapia Avaliação e Tratamento**. São Paulo: 2. ed. Manole, 2004.
- STEIMBER, F.; SUNWOO, I.; ROETTGER, R.F. **Prosthetic rehabilitation of geriatric amputee patients: a follow up study**. Arch Phys Med Rehabil 1985; 66(11):742-5.
- TEIXEIRA, M.J.; IMAMURA, M.; CALVIMONTES, R.C.P. **Dor fantasma e no coto de amputação**. Rev Med (São Paulo) 1999;78(2 pt.2):192-6.

Avenida Orlando Luiz Zamprônio,
245, Centro,
Santa Lúcia – PR
CEP: 85795-000
fernanda_brandini@hotmail.com

ANALYSIS OF CHARACTERISTICS OF PAIN IN PHANTOM LOWER LIMB AMPUTATIONS**ABSTRACT**

Amputation is defined as withdrawal, usually surgery, all or part of a committed member of the body. Most amputees report the presence of phantom pain after surgery, and pressure sensations, tingling and sometimes numbness, limb amputated as a hallucination due to the difficulty in accepting the mutilation, setting the phantom sensation, like a dream or desire to preserve the anatomical integrity of body. This study aimed to analyze the characteristics of phantom pain presented in unilateral lower-limb amputations. We conducted a direct and an individual questionnaire formulated by the researcher, composed 11pergutas to patients treated at the rehabilitation center of Assisi School Gurgacz in the period from July to August 2010. Of the 25 patients interviewed 17 (68%) had transtibial amputation and 8 (32%), transfemoral amputation, with a mean age of 58.02 men and 57.40 among women, for the main features of phantom sensation, are among The most cited the tingle in the pit and pulse rate.

KEY - WORDS: amputation, phantom limb pain, lower limbs.

ANALYSE DES CARACTERISTIQUES DE LA DOULEUR EN AMPUTATIONS DES MEMBRES INFÉRIEURS.**RÉSUMÉ**

L'amputation est défini comme le retrait, le plus souvent une intervention chirurgicale, tout ou partie d'un membre engagé de l'organisme. La plupart des amputés signaler la présence de la douleur fantôme après la chirurgie, et les sensations de pression, des picotements et un engourdissement parfois, membre amputé comme une hallucination due à la difficulté à accepter la mutilation, l'établissement de la sensation fantôme, comme dans un rêve ou le désir de préserver l'intégrité anatomique du corps. Cette étude visait à analyser les caractéristiques de la douleur fantôme présenté dans les amputations des membres inférieurs unilatérale. Nous avons mené une directe et un questionnaire individuel formulées par le chercheur, 11pergutas composée de patients traités au centre de réadaptation d'Assise Ecole Gurgacz dans la période de Juillet à Août 2010. Sur les 25 patients interrogés 17 (68%) avaient une amputation transtibiaux et 8 (32%), amputation, avec un âge moyen de 58,02 hommes et 57,40 chez les femmes, les principales caractéristiques de la sensation fantôme, sont parmi les La plupart des cités des frissons dans le taux de puits et d'impulsion.

MOTS - CLÉS: amputation, la douleur du membre fantôme, les membres inférieurs.

ANÁLISIS DE LAS CRACTERÍSTICAS DEL DOLOR EM EL FANTASMA AMPUTACIONES DE MIEMBROS INFEIORES**RESUMEN**

La amputación se define como el retiro, la cirugía por lo general, la totalidad o parte de un miembro comprometido del cuerpo. La mayoría de amputados el informe de la presencia de dolor fantasma después de la cirugía, y las sensaciones de presión, sensación de hormigueo y adormecimiento en ocasiones, miembro amputado como una alucinación debida a la dificultad de aceptar la mutilación, el establecimiento de la sensación fantasma, como un sueño o el deseo de preservar la integridad anatómica del cuerpo. Este estudio tuvo como objetivo analizar las características del dolor fantasma se presenta en amputaciones unilaterales de las extremidades inferiores. Hemos llevado a cabo 11pergutas compuso una directa y un cuestionario individual formulada por el investigador, los pacientes atendidos en el centro de rehabilitación de Asís Escuela Gurgacz en el período de julio a agosto de 2010. De los 25 pacientes entrevistados, 17 (68%) tenían una amputación transtibial y 8 (32%), la amputación transfemoral, con una edad media de 58,02 hombres y 57,40 entre las mujeres, de las principales características de la sensación fantasma, se encuentran entre La mayoría citó el cosquilleo de la tasa de pozo y el pulso.

PALABRAS - CLAVE: amputación, el dolor del miembro fantasma, las extremidades inferiores.

ANÁLISE DAS CARACTERISTICAS DA DOR FANTASMA EM AMPUTAÇÕES DE MEMBROS INFERIORES.**RESUMO**

A amputação é definida como a retirada, geralmente cirúrgica, total ou parcial de um membro comprometido do corpo. A maior parte dos amputados relata a presença de dor fantasma, após a cirurgia, tendo sensações de pressão, formigamento e algumas vezes dormência, no membro amputado como uma alucinação devido à dificuldade em aceitar a mutilação, definindo a sensação-fantasma, como um sonho ou desejo de preservar a integridade anatómica corporal. A presente pesquisa teve por objetivos analisar as características da dor fantasma apresentada nas amputações unilaterais de membros inferiores. Realizou-se a aplicação direta e individual de um questionário formulado pelo pesquisador, composto por 11pergutas aos pacientes atendidos no Centro de reabilitação da Faculdade Assis Gurgacz, no período de julho a agosto de 2010. Dos 25 pacientes entrevistados 17 (68%) apresentam amputação transtibial e 8 (32%) amputação transfemural, com idade média de 58,02 entre os homens e 57,40 entre as mulheres, em relação as principais características da sensação fantasma, estão entre as mais citadas o formigamento a pontada e a pulsação.

PALAVRA - CHAVE: amputação; dor fantasma; membros inferiores.