

SOME CHARACTERISTICS OF PATIENTS WITH LOWER LIMB AMPUTATION ON REHABILITATION IN THE REHABILITATION INSTITUTE IN LJUBLJANA

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Abstract

The article describes some characteristics of patients after lower limb amputation due to atherosclerosis which affects arteries of all human body. The most affected are

diabetic patients. The research looked over all hospitalized amputee patients from 2002 to 2007. It showed that 90% of amputee patients lost their lower extremity due to atherosclerosis. Mail population was handicapped frequently than female population. 54% of patients had diabetes.

INTRODUCTION

In Slovenia, as in other countries, the average life expectancy has been rising. The consequences of longer life include chronic diseases affecting human body.

One of the chronic diseases is atherosclerosis. It affects the arteries of the entire human body, including the arteries of lower limbs. About 90% of all lower limb amputations result from poor arterial circulation. Atherosclerosis affects also vital organs which may lead to brain stroke or myocardial infarction as well as to lower limb amputation (1).

In the world, the incidence of amputation is about 30 patients per 100 000 inhabitants per year. In Slovenia, the incidence is about 23 patients per 100 000 inhabitants per year (2).

The Institute for Rehabilitation, Republic of Slovenia, is the main institute in the country providing rehabilitation for patients after disease or trauma. One of its wards is a ward for patients after lower limb amputation. The ward has 31 beds.

The patients are treated by a multidisciplinary team. The main aim is to restore and preserve the patient's maximal functional independence for as long as possible.

Rehabilitation outcome depends on the patient's cooperation as well as on the level of amputation. Appropriate prosthetic fitting also plays an important role.

Patients after amputation of one or both limbs, admitted to the rehabilitation program, differ in a variety of ways: the

cause of amputation, the part of Slovenia they come from, their age, sex etc.

The aim of the research was to review and classify the patients admitted for rehabilitation in the period from 2002 to 2007.

METHODS AND SUBJECTS

Methods

A descriptive method was used. Longitudinal study included a sample of patients hospitalized at the Institute for Rehabilitation at the ward for patients after lower limb amputation in the period from January 1, 2002 till December 31, 2007. Structural observation was performed.

The collected data were analyzed with Excel software.

RESULTS

From 2002 to 2007, the number of patients fluctuated from 377 in 2004 to 427 in 2006.

Average stay in Rehabilitation institute (Fig.1) was from 27 to 29 days for first admission. The average stays in Institute for bilateral amputations of lower limb was from 9 to 20 days. It depended if patient has got prosthesis for second amputated limb or not, or if he came only for prescription of other orthopedic devices.

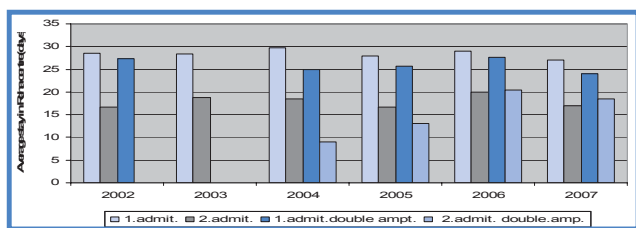


Figure 1: Average amputee patients stay in Rehabilitation centre from 2002 to 2007 (First admission, Second admission, First admission after double amputation, Second admission after double amputation)

The most frequent cause for amputation is diabetes (Fig 2). About 55% of patients lost their lower limb because of diabetes.

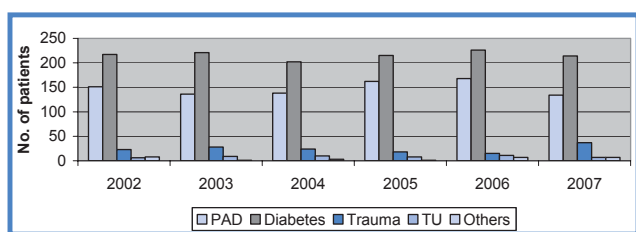


Figure 2: Causes for lower limb amputation (PAD-peripheral arterial disease, diabetes, trauma, TU-tumors, Others - other causes for amputation)

The most frequent level of amputation in years 2002 to 2007 was transtibial. In years 2006 and 2007 the number of patients with transfemoral amputations increases (Fig.3).

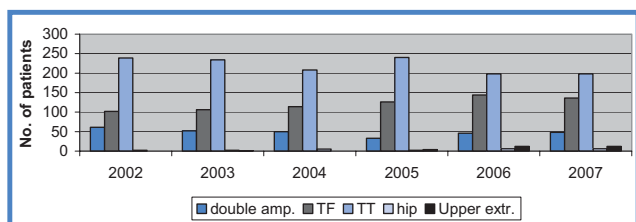


Figure 3: Levels of amputation from 2002 to 2007 (double amp. -double transfemoral amp.,transfemoral and transtibial amp. and double transtibial amp., TF-transfemoral amp. and knee disarticulation, TT-transtibial amp., hip.- hip disarticulation and hemipelvectomy, upper extremities) The percentage of amputee patients who were fitted with prosthesis wariate from 80 to 90%. The number of patients who were not fitted with prosthesis decreased in the last few years.

The relationship between male and female in years 2002 to 2007 was 2:1.

The most frequent age period in which patients were hospitalized was from 70 to 79 years in all years we reviewed.

Patients were average 65.5 years old, female were average 71.9 years old and male 65.4 years old.

From 2002 to 2007, the largest number of patients came from the region covered by the Health Insurance Institute Ljubljana and the next region with high percentage of hos-

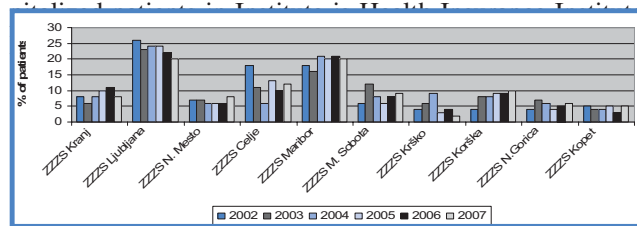


Figure 4: % of amputee patients from different Slovenian Health Insurance

DISCUSSION

From 2002 to 2007, the number of patients fluctuated from 377 in 2004 to 427 in 2006.

The average time for first admission was 27 to 29 days and for second admission to be fitted with the final prosthesis was from 17 to 20 days. Some of the patients needed to have the remaining lower limb amputated. Those patients were included into rehabilitation from 24 to 27 days.

If we connect together diabetes and vascular diseases as a cause of lower limb amputation the result is 90% (1). In the recent years, an increasing number of amputations due to various injuries have been observed. The other causes of amputation have stayed at the same level.

The most frequent level of amputation in all years was transtibial amputation, about 60% of hospitalized patients.

The percentage of amputee patients who were fitted with prosthesis wariate from 80 to 90%.

The number of patients who were not fitted with prosthesis decreased in the last few years.

Prešern-Štrukelj (1) speaks about relationship between male and female in 2:1, which is valid also in our research.

Mostly patients were hospitalized in age period from 70 to 79 years. From 2002 to 2007, the largest number of patients came from the region covered by the Health Insurance Institute Ljubljana. There has been a constant increase in the number of patients from the region covered by the Health Insurance Institute Maribor and Ravne. The smallest number

of hospitalized patients was from the region covered by the Health Insurance Institute Koper.

legs amputated is vitally worse from patients who are one side amputated.

CONCLUSION

In Slovenian Institute for Rehabilitation will be necessary to file still much effort to educate the patients after lower limb amputation. Education should be about bad habits such as smoking or abuse of alcohol and its bad influence on individuals' health. Education should have also all diabetic patients after amputation, above all concerning harmful influence of high blood sugar on walls of arteries. It is also necessary to underline the urgency of taking care for the remaining leg. The quality of life of patients that have both

References:

1. Prešern-Štrukelj M. Rehabilitacija starejših po amputaciji spodnjih udov. 13. dnevi rehabilitacijske medicine-amputacije in protetika. Ljubljana: Inštitut republike slovenije za rehabilitacijo, 2002: 27-33.
2. Marinček Č. Amputacije in protetika nekoč. 13.Dnevi rehabilitacijske medicine-amputacije in protetika. Ljubljana: Inštitut republike Slovenije za rehabilitacijo, 2002: 5-10.