DELAYED REFERRAL OF LOWER LIMB AMPUTEES FOR REHABILITATION; AN AUDIT STUDY

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ABSTRACT

Objective: To determine the causes of delayed referral of lower limb amputees for rehabilitation.

Study Design: Descriptive study.

Place and Duration of Study: Armed Forces Institute of Rehabilitation Medicine Rawalpindi, from April 2012 to July 2012.

Patient and Methods: Thirty two patient cases of lower limb amputation were included. They were referred cases to AFIRM from operational areas and CMHs all over Pakistan for provision of prosthesis and rehabilitation.

Results: A total of 32 lower limb amputees' male patients with mean age 29 years were included in the study. Transtibial level was the most common amputation 19(57.6%). Improvised Explosive Device (IED) was the most common mode of injury 19(57.6%). 34.37% patients were delayed due to leave granted to them at local set ups before referral to AFIRM for rehabilitation.

Conclusion: Delayed referral for rehabiltation has poor impact on rehabilitation of an amputee.

Keywords: Lower limb amputation, Prosthesis, Rehabilitation.

INTRODUCTION

In recent era due to war and terror activities in Pakistan, our army is facing different war associated injuries. Traumatic lower limb amputation is one of the common disabling conditions. Studies reveal that landmines injuries are commonest cause of traumatic amputations in war affected army personnel[1]. In such conditions amputation can be a reliable means toward pain relief and improvement of function. The military physician must be aware of the appropriate surgical, rehabilitative, and psychosocial needs of the lower extremity traumatic amputee[2].

By amputee rehabilitation we mean psychosocial adaptation of the patient to his disability, maximum independence in activities of daily living, prevention of joint contractures safe, effective and cosmetically acceptable gait with prosthesis. Recent advances in amputee care and discoveries of modern prosthesis has helped the amputees in bringing changes in their lives, decreasing dependence on their families and helping health professionals in management of amputation[3].

Average time duration for lower limb amputee rehabilitation and fitting of prosthesis is 36.25 ± 14.97 days for primary amputation and 68.66 ± 33.52 days for reamputation[4]. This study aims to highlight all the causes which delay referral for rehabilitation and we will be able to give recommendations based on our study that how this delay in referral may be shortened.

PATIENTS AND METHODS

This descriptive study was conducted at Armed Forces Institute of Rehabilitation Medicine (AFIRM), from April 2012 to Jul 2012. Thirty two patients were included in the study through non-probability convenient sampling and possessing all documentation for provision of prosthesis.Amputation carried out as complication of diabetes mellitus, congenital amputation cases, patients having cardiopulmonary compromise, poor cognition, visual loss, peripheral nerve injuries and fractures were excluded.

Retrospectively patient documents were searched for medical/surgical or social

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conditions which caused delayed referral for rehabilitation.

Data was collected on structured performa and analyed with SPSS version 19.

RESULTS

A total of 32 lower limb amputee patients fulfilling the inclusion criteria were included in the study .All were male patients. The age was ranging from 16 to 37 years with 29 years as the mean age. Transtibial level was the most common amputation 19(57.6%). Improvised Explosive Device (IED) was the most common mode of injury 19(57.6%).The other levels of lower limb amputation along with causes is shown in Table-2. Time duration between amputation and referral for comprehensive rehabilitation is shown in figure-1. Eleven (34.37%) patients were late referred due to leave, while other causes for delayed rehabilitation are shown in table-1.

DISCUSSION

The concept of war on terror is rising on the shared western borders in Pakistan as to the international community. Traumatic amputations due to IED blasts, mine blasts etc are most common. The rehabilitation resources have to be well equiped for increasing cases.The ultimate goal should be sussessful community reintegration of war wounded soldiers[5]. The soldiers during the periamputation period should be counseled well about future life.They need a smart fitting prosthesis as per their activity level[6].

Post amputation it is recommended that patient may be provided with pneumatic prosthesis and should be mobilized earlier within one to two weeks post amputation[7]. Early mobilization in amputees with early start of prosthetic rehabilitation curtails down the immobilization effects and depressive symptoms[8]. Those with delayed discharge from surgical units had decreased functional gains. Those receiving specialized rehabilitation services earlier had better functional independence[9].

Literature review suggests that amputees are referred for prosthetic rehabilitation within one to two weeks post amputation[10], while in our study minimum time at which patients were referred for rehabilitation was 5 months. Although as per inclusion criteria of our study there was no contraindication for rehabilitation.

Table-1: Causes of delayed referral of lower limb amputees for rehabilitation.

Reasons for delayed referral	Frequency
Leaves granted at sett ups where amputation was carried out	34.4%
Redo surgery	18.8%
Osteomyelitis of stump	18.8%
Bed not available	12.5%
Associated fractures	9.2%
Wound infection	3.2%
Others	3.1%

Table-2: Percentages and frequencies of (RTA= road traffic accident, IED= improved explosive device) levels of lower limb amputation with causes

Level of amputee	Frequency	Percentage	Cause
Transfemoral	6	18.2%	RTA
Transtibial	19	57.6%	IED blast
Partial Foot	3	9.1%	Mine blast
Symes	2	6.0%	Mine blast
Lisfranc	1	3.0%	Mine blast
Choparts	1	3.0%	Mine blast
Total	32	100%	

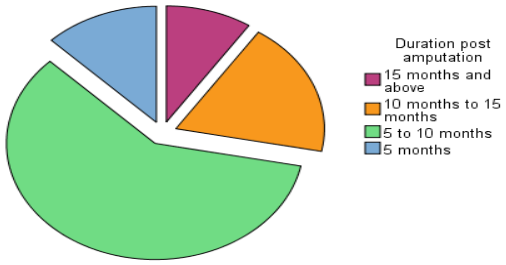

Figure-1: Time lapse between amputation and initialtion of rehabilitation display frequency (%age) for each category in pie chart.

Due to this undue delay patient had developed preventable complications like joint contractures, muscle wasting and ultimately length of hospital stay was almost double as compared to international standards[11].

A treating surgeon at that set up can decide in a better position either leave granted to the patient can delay referral for rehabilitation or not. Other common causes were osteomyelitis of stump and redo surgery.

In our study majority of the cases were not granted leave after the operations. Early treatment of skin infections of the stump and associated comorbid conditions may decrease the burden of osteomyelitis[12]. Redo surgeries may delay referral for rehabilitation and increase length of stay in hospital. Pre-operative communication with rehabilitation physician may help to prepare a stump that is quite compatible with prosthesis[13] and this interdisciplinary approach will also decrease chances of redo surgery of the stump[14,15].

CONCLUSION

The common cause of delayed rehabilitation in lower limb amputees was leave granted before start of rehabilitation. It was followed by redo surgery, stump osteomyelitis, bed unavailability, multiple fractures and wound infections. Timely interdisciplinary liaison can prevent delay in referral of such cases.

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