Research Article

Clinical study of lower limb amputations: A hospital based study

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Abstract

Background: Major limb amputation is a public health problem which is associated with various social, economic and psychological effects on the patients and their relatives particularly in developing countries with very poor prosthetic services. **Objective:** Present study was done to describe the clinical profile of Lower Extremity Amputations in surgical cases at our hospital. **Methods:** This is a study of 112 patients visiting the hospital for treatment during the study period. The patients who underwent elective or emergency lower extremity amputation were included in the study. Demographic details like age and sex distribution of the cases was described. The causative pathology for lower extremity amputation was described in male as well as female patients. Distribution of the cases as per elective or emergency amputation was mentioned and its relation to the causative pathology was described. Details regarding the types of amputation done and the limb conservation procedures adopted were also described. **Results and Conclusion:** In our study maximum numbers of cases have occurred in 5th and 6th decades of life. The study comprised of 93 males and 19 females. Male to female ratio was 4.89:1. The most common etiology in our study was vascular disease followed by Diabetes as the second most common cause. Most of the amputations done were emergency amputations comprising 81 (72.3%) cases. The most common type of amputation done among the study subjects was an above knee amputation. Lumbar sympathectomy was the most common limb conservation procedure adopted. Present study gives information regarding the clinical profile of lower limb amputation cases from our hospital.

Keywords: Above knee amputation, Lumbar sympathectomy.

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INTRODUCTION

Surgical amputation has been practiced for therapeutic reasons in conditions like peripheral vascular disease, trauma, infection, tumour and congenital anomalies[1,2]. Limb amputation has been considered as the last option when limb salvage is not possible or when it is found that the limb is dead or dying or it is endangering the patient's life[3].The loss of a limb due to amputation in the developing countries where the prosthetic services are very poor has social, economic and psychological effects on the patient and also their family[4,5]. The incidences of different pathologies leading to limb amputation have been reported to vary from one place to the other[6]. Present study was done to describe the clinical profile of Lower Extremity Amputations in surgical cases at the hospital.

METHODS

This was a cross-sectional and descriptive study done at our hospital which included all patients who underwent major limb amputations at the surgery department of our tertiary care hospital during the study duration. This is a study of 112 patients visiting the hospital for treatment during the study period. The patients who underwent elective or emergency lower extremity amputation were described in the study. Demographic details like age and sex distribution of the cases was described. The causative pathology for lower extremity amputation was described in male as well as female patients. Distribution of the cases as per elective or emergency amputation was mentioned and its relation to the causative pathology was described. Details regarding the types of amputation done

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and the limb conservation procedures adopted were also described.

RESULTS

In our study maximum numbers of cases have occurred in 5th and 6th decades of life. The study comprised of 93 males and 19 females. Male to female ratio was 4.89:1. The most common etiology in our study was vascular disease followed by Diabetes as the second most common cause. Most of the amputations done were emergency amputations comprising 81 (72.3%) cases. The most common type of amputation done among the study subjects was an above knee amputation. Lumbar sympathectomy was the most common limb conservation procedure adopted.

Table 1: Age Distribution of Patients

Age in Years	No. of Cases	Percentage
10 years and below	02	01.79
11-20	04	03.57
21-30	07	06.25
31-40	18	16.07
41-50	23	20.54
51-60	31	27.68
61-70	20	17.86
70 and above	07	06.25
Total	**112**	**100**

Table 2: Sex Distribution of the Patients

Sex	No. of Cases	Percentage
Male	93	83
Female	19	17
Total	**112**	**100**

Table 3: Etiology

Etiology	No. of Cases	Percentage
Vascular	52	46.4
Diabetes	28	25
Trauma	15	13.4
Infection	8	7.1
Malignancy	6	5.4
Others	3	2.7
Total	**112**	**100**

Table 4: Etiology in Males (n = 93)

Etiology	No. of Cases	Percentage
Vascular	48	51.6
Diabetes	20	21.5
Trauma	12	12.9
Infection	7	7.5
Malignancy	5	5.4
Others	1	1.1
Total	**93**	**100**

Table 5: Etiology in Females (n = 19)

Etiology	No. of Cases	Percentage
Vascular	4	21.1
Diabetes	8	42.1
Trauma	3	15.8
Infection	1	5.3
Malignancy	1	5.3
Others	2	10.5
Total	**19**	**100**

Table 6: Emergency or Elective Amputation Surgery in relation to Etiology

Etiology	Emergency	Elective
Vascular	40	12
Diabetes	25	03
Trauma	15	Nil
Infection	7	1
Malignancy	Nil	6
Others	Nil	3
Total	**87 (77.7%)**	**25 (22.3%)**

Table 9: Limb Conservation Procedure

Procedure	No. of Cases
Thrombolysis	01
Endarterectomy	01
Lumbar sympathectomy	05
Popliteal artery repair	01

Table 10: Types of Amputation in Males

Types of Amputation	No. of Cases	Percentage
Toe	17	15.5
Ray	11	10
Transmetatarsal	5	4.6
Symes	1	0.9
Below knee	36	32.7
Above knee	40	36.4
Total	**110**	**100**

Table 11: Types of Amputation in Females

Types of Amputation	No. of Cases	Percentage
Toe	4	18.2
Ray	3	13.6
Symes	1	4.5
Below knee	6	27.3
Above knee	8	36.4
Total	**22**	**100**

DISCUSSION

In our study a total of 112 patients underwent 132 amputations of the lower extremity at different levels. In our study maximum numbers of cases have occurred in 5th and 6th decades of life. Phillipo LC *et al*[6] have also reported similar results with 5th and 6th decades of life being the most common age group in their study. However a study by Naaeder SB[7] in Ghana has reported peak age incidence in the 7th decade of life. Some studies have reported a lower peak age incidence for lower limb

amputations[8,9]. Our study comprised of 93 males and 19 females. Male to female ratio was 4.89:1. Study by Unwin N[10] and Dean AG[11] have also found that men have two to three times higher amputation rate than that of women. The most common etiology in our study was vascular disease followed by Diabetes as the second most common cause. Some other studies have also reported vascular disease and diabetes among the most common causes of lower limb amputation[10,11,12]. However, many studies from developed countries have shown the diabetes related amputations to be the most common cause of amputation[13,14]. The most common types of amputation done among the study subjects were above knee and below knee amputations. Similar to our results there are other studies which have also found above knee amputation as the most common procedure performed[8, 15]. Thus, present study gives information regarding the clinical profile of lower limb amputation cases from our hospital. Further research needs to be done to evaluate the causes and profile of lower limb amputation cases which may help in better prevention and management strategies to be designed.

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