

The Prevalence of Lower Limb Amputations in Al-Ramadi City

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Abstract

Aim: The study aims at determining the prevalence and causes of lower limb amputations in Al-Ramadi General Hospital.

Methods: The medical data and records of all patients with lower limb amputation who were treated in Al-Ramadi General Hospital from January 2003 to January 2008 were reviewed. Age, sex, cause and level of amputation were taken in to consideration.

Results: we record a total number of 221 patients were studied among them 125 male (56%) and 96 female (44%). The mean age was 44 years. Trans-femoral amputation was the commonest leading level of amputation 29%, followed by toe amputation 26%. Diabetes Mellitus DM (42%) was the most common cause of amputation followed by trauma (41%).

Conclusions: Diabetes Mellitus is the main cause of lower limb amputation in Al-Ramadi city. Good control of blood sugar and education programs are important to minimize the complication of this disease. Proper identification of the high risk patients and follow-up programs should reduce the occurrence of the amputation

Recommendations: It is recommended to develop of high specialized centers for treatment and follow-up of diabetic patients.

Keywords: amputation, trauma, prevalence, diabetes.

Introduction

Amputation is the most ancient of surgical procedures. Early surgical amputation was done by a procedure through which a limb rapidly severed from a unanesthetized patient. The open stump was dipped in boiling oil to obtain haemostasis. Hippocrates was the first use ligatures then in 1529 Ambrose Par a French military surgeon introduced "artery forceps".

We have two types of amputation:

1. Amputation at the site of election: The site of election is determined by the demand of prosthetic design and local function.
2. Amputation other than the site of election: Unusual sites are sometimes chosen when there is no other option e.g. life threatening sepsis, malignant disease or mutilating trauma e.g. disarticulation or hemipelvectomy (hindquarter amputation).

It is important that amputation be performed is surgeon who has a complete understanding of amputation surgical principles, postoperative rehabilitation and prosthetic design. Improved prosthetic design does not compensate for poorly performed surgical procedure.²

Amputation should not be regarded as a failure of the treatment, but rather as the first step

So the mortality rate significantly reduced and creating more functional stump. Further advances were made by Morel's introduction of tourniquet in 1674 and Lord Lister's introduction of antiseptic techniques in 1867. With the use of Chloroform and Ether for general anesthesia in late 19th century, the surgeon for the first time could fashion good and functional stump.¹

toward a patient return to a more comfortable and productive life.

The operative procedure should be planned and performed with the same care and skill used in any other reconstructive procedure.³

Methods

In this retrospective study, the medical records and data for patients treated by lower limb amputation who were admitted to Al-Ramadi general hospital between January 2003 to January 2008 were recorded then we returned to the statistic department in this hospital to reviews their records concerning age, sex, causes and the level of amputation to use them as a parameters.

Results

The number of patients included in this study was 221, 125 patients (56%) were males and 96 (44%) were females (figure 1).

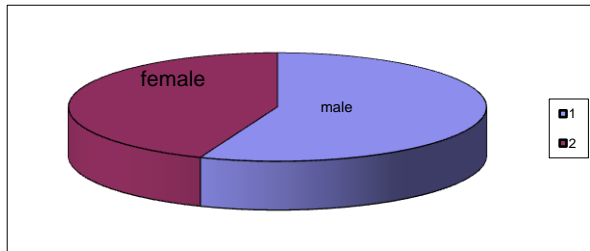


Figure 1: Pie chart shows the sex ratio

The age ranged from 10 years to above 70 years. The dominant age group was 51 – 60 year and it was 28% (table 1).

Diabetes mellitus was the commonest cause of lower limb amputation (42%), followed by trauma which included (41%) of patients (table 2).

Transfemoral amputation was the commonest level for amputation in 29% followed by toe amputation in 26% and followed by transtibial amputation 24% (table 3).

Table 1: Distribution of patients according to age group.

Age group	No. of Patient	Percentage
10 – 20	8	3%
21 – 30	28	13%
31 – 40	31	14%
41 – 50	57	26%
51 – 60	62	28%
61 – 70	25	11%
Above 70	10	5%

Table 2: Distribution of patients according to the causal agents.

Cause of amputation	No. of patients	Males	Females	%
<i>Diabetes mellitus</i>	93	45	48	42%
Trauma	92	62	30	41%
Tumor	18	10	8	8%
Peripheral vascular Dis.	12	5	7	5%
Infection	3	1	2	2%
Congenital	3	2	1	2%
Total	221	125	96	100%

Table 3: Distribution of patients according to the level of amputation.

Level	Males	Females	Total	%
<i>Hindquarter Amputation</i>	1	0	1	1%
Hip disarticulation	2	1	3	1%
Transfemoral	30	34	64	29%
Knee disarticulation	3	2	5	2%
Transtibial	29	24	53	24%
Through Ankle	4	2	6	3%
Through Foot	15	17	32	14%
Toe Amputation	31	26	57	26%
Total	115	106	221	100%

Discussion

Amputation and its causes have drawn the attention of many authors all over the world. Studies of western countries e.g. Poljlainen and Alaranta⁴ conducted two-years study in lower limb amputation in southern Finland. They reported 880 amputations performed on 705. Transfemoral was the dominant site of amputation 42% followed by the transtibial amputation 28%. Peripheral vascular disease (PVD) was the most common cause of amputation 43% followed by diabetes mellitus 40%.

In England Rubin Luff⁵ reported from the department of Health and in Social Searching Data in 1998 that the transfemoral amputation formed the largest group 47%, followed by transtibial amputation 45%. The peripheral vascular disease was the most leading cause for amputation 49% followed by trauma 44% then diabetes 41%.

An Arab study by Al-Turaiki and Al-Falali⁶ from Saudi Arabia reported in a retrospective study over 14 years, 3210 amputees with the mean age of 30 years. The transtibial amputation was the majority 45.2% followed by the Transfemoral 21%. Diabetes mellitus was the leading cause of amputations 59% followed by trauma 39%.

Another study from Jordan, Al-Worikat A.F⁷ reported 235 amputees over 3 years with the mean age of 38 years. Transtibial was the commonest level of amputation 59%. The most common cause was diabetes mellitus 51% followed by trauma 32%.

In our study we find that the percentage of transfemoral amputation increased and this was because of our management which was more radical in the treatment because of follow-up programs in this region deficient and some surgeons try to solve the problem with minimal follow-up.

The sex distribution in this study was nearly equal because the time of the study during a war period which was a more civilian war than military one.

As we see in our study and similar middle east studies that diabetes mellitus was the commonest cause of lower limb amputation due to decrease health education level and decrease in the number of centers for diabetic clinic and health programs concerned with explanation of this disease and its complication and the way to prevent diabetes and its complications despite we passed in a period of war although the diabetes remain the most common cause of amputation and we see that clearly in our study. So only in 2003 – 2004 the trauma was the most common cause of amputation. In 2005 – 2006 all percentages of amputation decreased because the events in our city made people face difficulty in going to our hospital. They tried take their patients to other hospitals in northren governorate. This percentage increased again in 2007 onward because of the security in our governorate, but the traumatic amputation was the second leading cause of amputation to diabetes.

Conclusions & Recommendations

1-Diabetes and trauma are the main leading causes of limbs amputation in Al-Ramadi city. Health programs directed to minimize the complication of these conditions and identification of the risky patients should reduce the occurrence of these disastrous complications.

2-Development of highly specialized centers for care and treatment of diabetic patients and good follow-up programs to identify and treat early any complications besides health education must be present in our city.

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