International Journal of Medicine Research
ISSN: 2455-7404; Impact Factor: RJIF 5.42
Received: 18-11-2019; Accepted: 19-12-2019
www.medicinesjournal.com
Volume 5; Issue 1; January 2020; Page No. 75-77

Lower limb amputation in Ninevah, descriptive study

Dr. Moayad M[1], Al-Jumeily[2], Dr. Nawar M[3], Abed Al-Moula[4]
[1-4] Ninevah Health Directorate, Iraq

Abstract
Objectives: For estimating of percentage of various causes of L.L. A in Ninevah governor. To describe the demographic characters of L.L.A populations to estimate the main side and levels of L.L.A.
Methods: A case serious study in done in Rhuematology and medical rehabilitation unit in Al-Salam General Hospital in Mosul, Ninevah Rehabilitation Center and prosthetic-orthetic center which belong to Iraqi Red Crescent Society in Mosul.
Study subject: 100 patients of L.L.A were attended to above centers during the period from 1st of October 2011 till the end of the June 2012
Results: The total numbers were 100 patients of L.L.A (90% males, 10% females) with the mean age (40.07±11.37). (96%) married, (3%) singles, (1%) widow. (47%) were B.K, (30%) sym's, (19%) A.K and (4%) T.K concerning with the causes of L.L.A, we have two groups, First group due to various trauma (92%), Second group due to vascular disease (8%) regarding the condition of the stump most were healthy (92%), ulcers (6%) and pain (2%).
Conclusion: The most common causes of L.L.A in Ninevah governor were trauma regarding military actions and R.T.A. The majority of L.L. A were married as the amputation was not badly affected the family construction, Most of the stump were healthy this reflect good follow up and care of (Amputee Assessment Committee) for prosthetic fitness in spite of poor medical facilitation due to blocked on Iraq since more than ten years.

Keywords: RTA, healthy, amputee

Introduction
Amputation: is a removal of a limb or a part of a limb from thebody [1]. In the latter half of the fifth century B.C Hipocrates wrote a treatise on joints in which amputation for vascular gangrene and cautery was described [2, 3, 4]. Ambrosis Pare (1510-1590 A.C) the father of French surgery improved ligation of large vessels during surgery and was vitally interested in the rehabilitation of amputee, designing and manufacturing several prostheses for both upper and lower extremities [4, 5, 6]. James Syme performed the first successful amputation at the ankle joint in (1842). This was later modified to one inch above the ankle joint. Other levels of lower limb amputation were developed due to branching of prevalence of amputation among population mostly due to armed accidents [6, 7, 8, 9].
Transtibial below knee amputation is the best level of amputation as it preserved the normal and complete action of the knee joint [6, 7]. Transfemoral or above knee amputation is well accepted for its high healing rate and simple technique [5, 6]. Hip and knee disarticulation were rare levels due to difficulty in prosthetic fitness [4, 5, 6]. Amputees need postoperative care in order to prevent complication such as infection, hematoma, absces, ulceration, gangrene and phantoin limb sensation [4, 5, 6]. An amputation committee in Mosul is concerned with the follow up of amputees and stump condition in order to refer them for prosthetic and orthotic center for fitness [4]. Several types of prosthesis are used for lower limb amputation, the most frequently used nowadays is a total contact socket type which prevents distal oedema and act as a circulatory pump during stance and swing phases through positive and negative pressure respectively [6, 7, 9].

Aim of the study
The study aims to:
1. Identify the causes of lower limb amputation.
2. Describe the demographic characteristic of amputee.
3. Determine the percentage of various levels of amputation.

Patients and Methods
This study is a descriptive case series study, evaluating 100 patients with previous lower limb amputation who attend to the Rheumatological and Medical Reliabilitation unit in Al-Salam General Hospital, Ninevah Rehabilitation Center and Prosthetic and Orthetic Center in Mosul. The period of data collection was 6 months started at the first of October 2011 and completed by the end of March 2012. These centers were visited every day by the investigator for case collection Patients included in the study were those who attended these centers and had a history of lower limb amputation of a period between 6 months till more than 20 years. Full history was taken from every patient, and patients were examined by the investigator for side, level of amputation, type of prosthesis and any complication of the stump (for further details see appendix 1).

Results
The sample is composed of 100 patients (90%) male, (10%) female with male to female ratio 9:1. The mean age of the study group was (40.07±11.37).
Table (1) demonstrates the age distribution of the patients, and reveals that (44%) of patients are in the age group (31-40) years, followed by (27%) in the age group (41-50) years,

(12%) in the (21-30) year age group. This reflect that the majority of amputees fall in the period of active years of life. Regarding marital status (96%) were married, (3%) single and (1%) widow. The main causes of ampulation were mines (40%), shells (32%), Bullet (6%), road traffic accident (14%), peripheral vascular disease with or without diabetes mellitus (896) seefigure(2).It was recognized that (61%) of amputees had right LLA, (28%) had left LLA, while (11%) had bilateral LLA. (as shown in figure 3). Table (2) shows that (47%) of patients had below knee amputation, (30%) Syme's amputation, (19%) above knee amputation, and (4%) through knee amputation. Sixty seven percent of cases used suspension type of prosthesis, while (24%) used suction type of knee locked and knee unlocked as explained in table (3).Regarding complication only (8%) of amputees had ulcers and pain, while (92%) had healthy stump as explained in figure(4).

Table 1: Age distribution of the study population

Age (year)	No.	%
<20	3	3
21-30	12	12
31-40	44	44
41-50	27	27
51-60	8	8
61-70	4	4
71+	2	2
Total	100	100

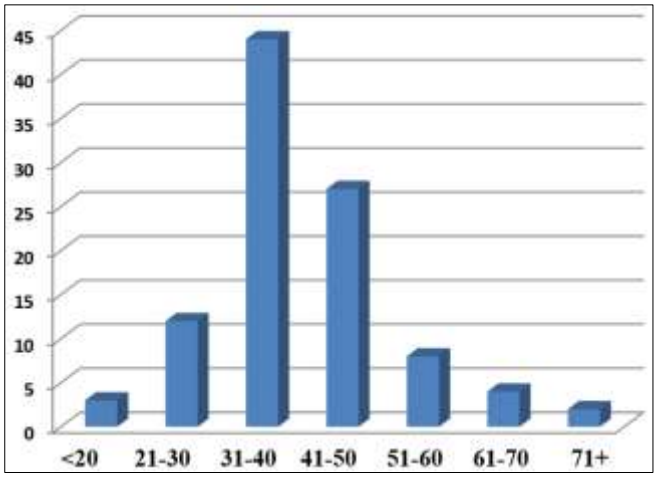

Fig 2: Age distribution of the study population

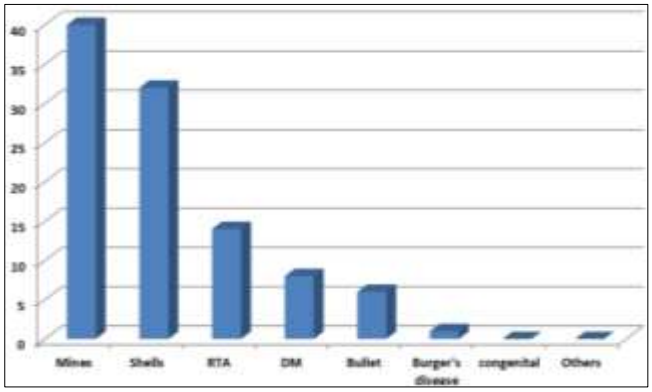

Fig 2: Causes of amputation in the study population

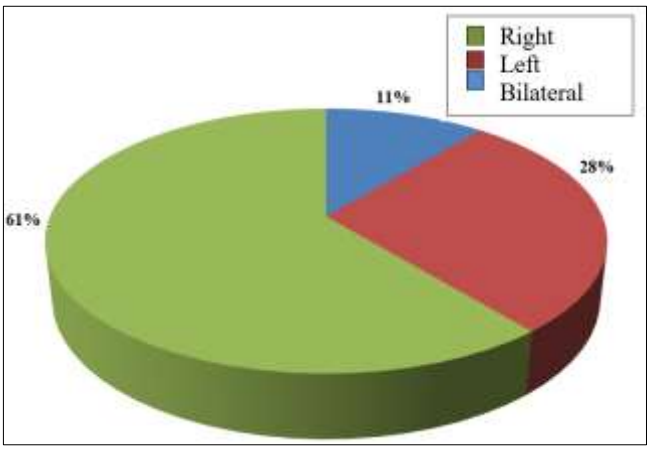

Fig 3: Side of amputation in the study population

Table 2: levels of amputation in the study population

Levels of amputation	%	Details
Below Knee	47	B.K. mid 24% B.K. mid 16% B.K. mid 7%
Sym's	30	
Above Knee	19	A.K. long8% A.K. mid6% A.K. short5%
Through Knee	4%	
Total	100%	

Table 3: Type of prostheses in the study population

Type of prosthesis	No.	%
Suspension	76	(76)
Suction knee lock	18	(18)
Suction knee unlock	6	(6)
Others	0	(0)
Total	100	(100)

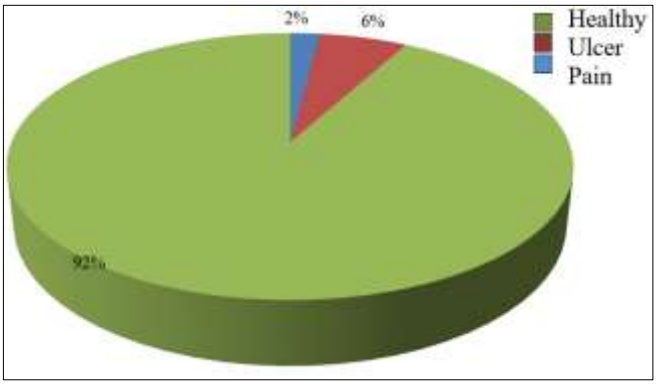

Fig 4: Stump Condition of the study population

Discussion

Lower limb amputation is considered a lifesaving procedure in conditions such as gangrene and some lower limb malignancies. Our study reflects that mean age of amputees was (40.07±11.37) which is consistent with other studies [8, 9, 11, 15]. But differ from another sludy in Finland [10]. Regarding male to female ratio our study reveal that men were the majority of cases (90%) which is similar to 3 studies [8, 17, 18]. This reflect that men were always facing hard life such as armed or military actions. Concerning the marital status the major populations of our study were married (96%) similar

study is consistent with our result. This is considered a good luck for the amputee as he or she gain assistance or help from the wife or husband for performing some ADL and reflect that LLA may not badly affect the family construction. Sixty one percentage of our study population was of right sided amputation this reflects that a subject usually advance during walking the right foot before the left one this differ from other study that reveals equal percentage between right and left amputated limb [8]. Our study reveals that military trauma is the main cause that lead to LLA (mines 40%, shells 32% and bullet 6%) followed by vascular disease with or without D.M (8%) this differs from other studies which reveals that the main causes of LLA were vascular disease with or without D.M [9, 10, 13]. One of the above similar studies was done in the middle Euphrates, the investigator found that the most common cause of LLA is vascular followed by trauma followed by infection and malignancy, He attributed his findings to the bad effects of the war and the economic blockade especially in that area [9]. Concerning the level of LLA our study reveals that B.K (47%) followed by Syme's level (30%) and A.K level (19%). These findings are similar to previous studies in the U.K and Finland [19, 20]. And differ from other study done in Bangladesh which reveal that (62%) A.K and (38%) B.K [21]. Seventy six percentage of amputees in our study were using a prosthesis of a suspension type while 24% of amputees were using a suction of knee locked and knee unlocked type. Concerning the complication of the stump of LLA most stumps were healthy (92%) and (8%) were complicated (6% ulceration and 2% pain), this reflect the care and good follow up of amputees who attended (Amputation Assessment Committee) post amputation for examination of the stump for prosthetic fitness. This differs from a previous study which found complication in war related amputees more than the non-war cases [22].

Conclusion

From the study we conclude that

1. Lower limb amputation is more common in males.
2. Mean age group was 40.0±11.37.
3. Major causes of lower limb amputation were military trauma.
4. The commonest of lower limb amputation was B.K.
5. Most type of prosthesis used was a suspension type.
6. Most stump conditions were uncomplicated.

Recommendations

Encourage establishing special leg amputations clinics which are connected with rehabilitation and prosthetic centers for reaching to more favorable outcome.

References

1. Dorland. Medical dictionary, A Division of Harcourt. W. B. Sanuder Company. Landon, 25 Ed, 1995, P. 33.
2. Gloria T Saners. Lower limb amputation a guideto rehabilitation, Philadelphia, 2nd Ed, 1996, p.13-32.
3. Barsby Pam B. Amputee Management-A handbook, London, 1st Ed, 1995, p. 69-80.
4. May BJ, Amputation and prosthetics a case study approach. London, 1st Ed, 1995, p. 107-137.
5. Barbara angstrom; Ven Chathrin, Therapy for Amputees. London, 1st Ed, 1999, p. 41-55.
6. Champerlain MA. Rehabilitation of the physically Disabledadult, London, 1993, p. 148-178.
7. Delisa JA. Rehabilitation medicine, Chapter 38, Keith M. Robinson. Joel E. Streim. Medical Emergencies inRehabilitation medicine, 2nd Ed, 1993, p. 788.
8. Al-Ramadhani AH, Al-Anaz MS. Amputees in MosulArea 5th Mosul Medical Conference, 1997, p. 54.
9. Al-Obaidi MH. "Al-Kufa Medical Journal", 2001, 4(1):12-20.
10. Pohiolenin T, Alarante H. Epidemiotlogy of lower limbamputees in south Finland Rehabilitation unit, Jorv: hospital, ESPOO. Finland, prosth-orth-in. 1999; 23(2):88-92.
11. Short CA, CM G. Connell, Prosthesis for persons with lower limb amputate. Dalhosie University-Depantmenl of prfostletic and orth. Arch-phys-Med-Rehabilitd. 1999; 80(7):854-856.
12. Van-Ross Cabbott, Kulkarnl J, Shaw JE, AlCarring AB. Laterality of lower limb amputees in diabetic penitential, BM, 1999; 319(7205):318-319.
13. Donohue SJ. Lower Limb amputee, indication and treatment, John rudcliffe hospital, Oxford Radcliffe. Br-J-Nurs. 1997; 6(117):974-977.
14. Burrger H, Marincek C, Lsakov E. Mobilizes of personafter traumatic Lower Limb amputation. Institute for Rehabilitate Disabil-Rehabilitate, 1997, p. 272-277.
15. Mohamed IA, Ahmed AR, Ahmed ME. Amputationand prostlesis in Alkhartouw. Damazine Hospital University of Khartoun Sudam. J-R-Coll-Surg-Edinb. 1997; 42(4):248-285.
16. Burqe H, Marjncek C. The Life style of Young personsafter Lower Limb amputation, could byingury, institute for rehabilitate, Solvenia heleun prosthet-orthot. 1997; 21(1):0303-3646.
17. White SA, Thompson MM, Zickerman AM, Bromhead P, Cirtchley P, Barrie WW, *et al*. Lower limb amputation and grade of surgeon. Department of surgery. Leicester Rotal infirmary, UK. Br-J-Surg. 1994; 84(4):509-511.
18. Aflubuddin M, Islam N, Jafar MA, Haque I. The State of lower limb amputees in Banglndesh. A G-yems review. Department of sugery, My Meningh medical Collage, Bangladesh. Surgeon Today. 1997; 27(2):130-134.
19. Grerive AC, Lankhorst GJ. Functional outcome of lower limb amputees, A prospective descriptive study in a general hospital onzelieve vrauwe Gasthuis, Department of Rehabilitation Medical, Amsterdam, The nether lands. Prospthet-orthot-int. 1996; 20(2):79-87. 0309-3646.
20. Cutson TM, Bongiorni DR. Rehabilitation of the oldenlower limb amputees, a brief Review. Claude-D-Depper older America's independence center. Dule university medical center Soc. 1996; 44(11):1388-1393. 0002.8614.
21. James Kasser R. Orthopedic knowledge update 5: p. 697703, 1996.
22. Hettiaratchy SP, Stiles PJ. Rehability of lower limbtransmit amputees. Oxford University Medical School, John Ruducliffe Hospital, UK. Injury. 1996; 27(7):499-501.