

INCIDENCE OF AMPUTATION IN EMERGENCY

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ABSTRACT

Advanced Technology and early detection of disease by recent improvements in investigation modalities lead to decreased incidents of amputations while Road Traffic Accidents (RTA) increase. Furthermore, it leads to variation and decreased morbidity, mortality and accidents (crush injuries), and better equipped and trained staff, specialist services, diabetic food, rehabilitation centres, and giving good support physically and psychologically for Amputated patients.

OBJECTIVE

To know incidence rates of Emergency Amputation who attended causality with advanced disease and severe Trauma.

METHODOLOGY

The study is done over a period of one year i.e. between June 2015 to June 2016 who attended causality with advanced and severe disease affecting the limbs either due to diabetes, trauma or vascular diseases.

RESULTS

During one-year period, total 6,371 patients attended for general surgery OP. In those, 187 patients needed emergency surgery which included both major and minor operations. Among those, 81 patients were amputated.

CONCLUSION

As per our available records and observation, even though there is increased literacy and access to advanced technology, there is still increased incidence of patients undergoing amputations due to diseases. Therefore, there is a need to improve awareness and importance of early detection of diabetes, hazards of smoking, and regular general health checkups for patients at root level. With that we can treat diabetes and/or any disease in time. So there must be awareness in peripheral health staff i.e. PHC, subcentres, and community health centres about early detection of disease which in turn improves the quality of life of the patient. Due to diabetes slight injury to the glucose laden tissue may cause chronic infection and ulcer formation.⁽¹⁾ The tumours are seen commonly in the age group of 20-40 years after bone fusion, bones affected commonly are those around the knee (lower end of knee, upper end of tibia.) A lytic tumour with no new formations is seen in the x-ray films of bone tumours.⁽²⁾ Commonly, bone tumour amputations are planned electively after thorough investigations. As per records available, vascular diseases and diabetes are most common diseases of Amputations.

KEYWORDS

Amputations, Rehabilitations, Cellulitis, Below Knee (BK), and Above Knee (AK).

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INTRODUCTION: From past 50 years, chemotherapeutic agents and antibiotics have made it possible to control cancer and invasive infections, and the morbidity rates have fallen. In selected cases, amputations are now performed more distally with safety and reasonable chance of success.

More than 50 years ago, Leland McKit-trick (Le) recognised amputation of a toe, in particular, the great toe, with its metatarsal head altered weight-bearing and increased the susceptibility of the foot to further injury, because of this, Le preferred "the relative security of the transmetatarsal amputation."⁽³⁾

Improved literacy and investigations with advanced technology are leading to gradually decreasing incidents of amputations because of early detection of diseases which help to plan for either conservative or surgical intervention in turn decreasing the rate of physically challenged people in the society. Even with strict traffic rules, accidents leading to traumatic amputations are increasing. Incidents of foot complications among patients with diabetes is one to two percent per year due to combined influence of vascular insufficiency and mechanical disruption, peripheral and autonomic neuropathy and impaired tissue healing.⁽⁴⁾

Below-Knee Amputations and Two Types of Skin Flaps;

- Long Posterior Flap.
- Skew Flap.
- BK amputations longer than 20 cm are probably not anymore functionally effective and poor circulation interferes with healing.⁽⁵⁾

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Above-Knee Amputations: Equal curved anterior and posterior skin flaps are made of sufficient total length.

MATERIALS AND METHODS: In one year duration (2015 to 2016), we considered all lower limb and upper limb diseases and trauma patients who attended causality in advanced and emergency conditions based on history, clinical examination, diagnosis and treatment.

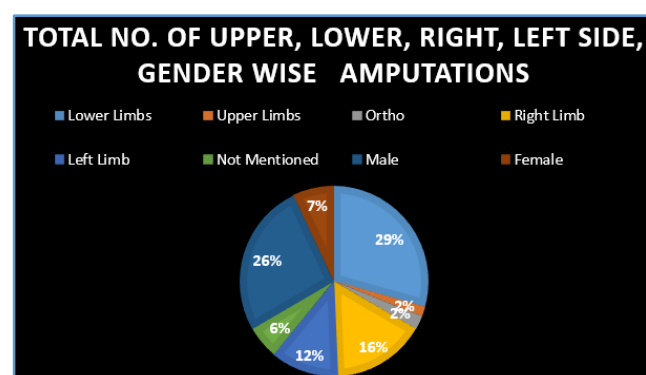
Inclusion Criteria: All patients who had two common diseases, diabetes and vascular diseases which include burns and also trauma.

Exclusion Criteria: Children below 12 years, elective amputations, and bone tumours.

RESULTS: During one year period, total 6,371 patients attended for General Surgery OP. In those, 187 patients needed emergency surgery which included both major and minor operations. Among those, 81 patients were amputated. Percentage wise amputated patients are tabulated and represented graphically.

Total no. of Upper, Lower, Right, Left Side, Gender wise Amputations		Percentage
Lower Limbs	71	88%
Upper Limbs	04	5%
Ortho	06	7%
Right Limb	39	48%
Left Limb	28	35%
Not Mentioned	14	17%
Male	64	79%
Female	17	21%

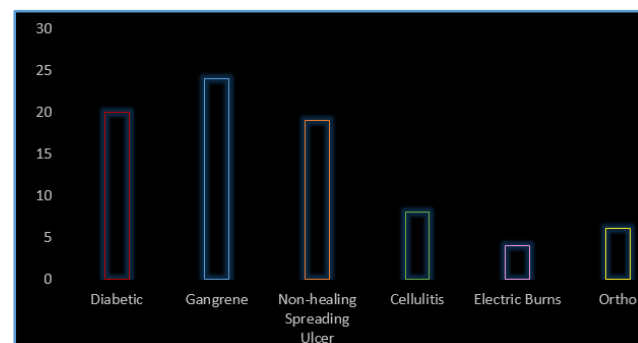
Table 1



In emergency conditions, most of the patients are presented in advanced stage of disease. Among those, gangrenous limbs are common i.e. 30% in total, next is diabetes. In both conditions, there is no success with conservative treatment.

Name of Diseases	Total Number	Percentages
Diabetes	20	25%
Gangrene	24	30%
Non-healing Spreading Ulcer	19	23%
Cellulitis	08	10%
Electric Burns	04	5%
Ortho	06	7%

Table 2



DISCUSSION: The common factors indicating amputations are either due to trauma or diseases like malignant neoplasm, chronic osteomyelitis, life threatening infections, inoperable congenital deformities both in children and adults, to improve function and better cosmetic results. The most common causes of lower limb amputation are diabetes and vascular diseases. For upper limb, the cause is trauma and burns. Other causes for amputation are Embolism, Osteosarcomas, Marjolin's Ulcers, and etc.⁽⁶⁾ Sometimes all methods fail either with long posterior flap in BK or equal flaps in AK amputations. In emergency condition, the wound infection rate is high, so it is not possible to keep sufficient length of stump to practice to bear prosthesis. At the same time, it is difficult to minimise already advanced diseases.

In foot problems, the diabetes continues to challenge the clinicians who care for these patients. Not only are they associated with morbidity and disability, but they also lead to significant impairment of quality of life.⁽⁷⁾ The foot is the complex structure with many layers of muscles, ligaments, joints, arches, fat, thick plantar fascia, vascular arches, and neurological systems which maintains weight-bearing, gravity, normal walk, stability, and gait.⁽⁸⁾ Complex anatomy of limbs is one major reason in failure of treating deeply seated advanced disease conservatively. Finally, amputation is the treatment. It indicates there is a need to educate and create awareness in the population about the diseases at the root level.

CONCLUSION: Even with access to advanced technology and better equipment, early detection of diseases and multiple treatment modalities, people still neglect their health due to stressful lifestyle, and younger age groups also suffer even with controllable and preventable diseases and report to the hospital in septic conditions where it is not possible to treat conservatively and save the limb.

Foot ulcers and related complications represent important cause of morbidity among people with diabetes mellitus.⁽⁹⁾ The factors leading to the development of foot

ulcers are not fully understood, but it is a responsibility to educate that they occur in conjunction with other late diabetic complications such as sensory neuropathy and vascular diseases.⁽¹⁰⁾ Ischaemia of the lower limb is far more common than of upper limb. It may be acute, acute-on-chronic, or chronic. Cases may be due to thromboembolism, atherosclerosis, or vasculitis. In these cases, elective amputations are needed; and in vascular diseases, macroscopic with super added putrefaction, the limb with no pulse, no function, no pain, no sensation, and dead tissues. "Amputation is one of the meanest and yet one of the greatest of operations in surgery – "mean" when resorted to if better may be done and "great" if the only step to give comfort and prolong life.⁽¹¹⁾" (Sir William Fergusson, 1808-1877, Surgeon, Royal Infirmary Edinburgh). In my study, there is more percentage of gangrenous diseases i.e. 30% than amputations for other than diabetes 25%. To avoid or decrease the incidents of amputations and number of physically challenged patients, there must be awareness at root level spread by our healthcare staff to people educating about dangers of atherosclerosis and signs and symptoms of diseases, care of any small injury, and dietary factors needed to avoid complications. At the same time, good rapport and communications are needed between primary to tertiary level health system.

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