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Modern Techniques in the Treatment of Diabetic Foot

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Review Article

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ABSTRACT

Diabetic foot is referred to any type of foot that exhibits any pathology that results directly from diabetes mellitus or chronic problems of diabetes mellitus. Possessing typical diabetic foot pathologies likewise leg infection, ulcers in diabetic foot and neuropathic osteoarthropathy are referred to diabetic foot syndrome. Diabetes related to peripheral nerve dysfunction related with diabetic neuropathy patients will have a reduced capacity to feel pain. Major injuries will not be exposed for initial days. Persons who affected with diabetic will also have the large probability of affecting with the diabetic foot ulcer. Research studies have said that lifetime occurrence of foot ulcers in diabetic community is around 15% to 25%.

INTRODUCTION

Foot ulcers are major complaints in poorly diet controlled patients, which initially results in the breaking down of the skin, there by leading in damage in the beneath layers of leg. People with affected diabetes will have the major probability of affecting with diabetic foot ulcer [1-7]. Affected diabetic persons should well aware with the foot infections and if anyone found foot pain or any discomfort should visit a better physician and in order to get vast. The initial sign of diabetic ulcer in having a minor drainage of pus or stain in the socks or with wet legs [8-10], which may their lead to swelling, irritation, redness in one or both feet are also similar symptoms of a diabetic foot ulcer.

Visceral sign of a severe foot ulcer is black tissue which usually surrounds the ulcer called Eschar. This may be of improper healthy blood flow to the area around the ulcer [4,11-16]. In general, partial or complete gangrene commonly called as death of tissue due to infections, which may appear around the ulcer [17-24]. Commonly observed symptoms are odorous discharge, pain, and numbness [6,16].

Weaken blood supply from microvascular disease with lack of sensation because of neuropathy, make susceptible to the persons with diabetes mellitus to foot infections [25-32]. Diabetic foot infections typically may lead to one of the following forms of disease, Cellulitis, Deep-skin and soft-tissue infections, chronic osteomyelitis [33-37]. In major, cellulitis will lead to erythematous, non-raised skin lesions and sometimes with lymphangitis.

Most diabetic foot infections (DFIs) require the treatment with the class of systemic antibiotics. Choice of the antibiotics will depends on the severity of the disease, whether the patient has offered with another antibiotic treatment, or the infection has been caused by a micro-organism that is predicted or to be resistant to usual antibiotics (MRSA) [24,38-43]. The major motto of antibiotic therapy is to prevent the infection and to ensure it does not

spread to other parts of the body. Major risk factors of diabetic foot ulcer are poor shoe quality, poor hygiene, improper trimming of toe nails. Open access journals will provide the increased visibility and accessibility to scientific readers in getting the required information [44-49]. The current researches in entire world, which are showcasing through open access journals, will serve as the main source of information in various scientific and technological fields [44-56]. To explore the awareness among the society, a large group of physicians and consultants have got associated to form a society or as an organization. The major theme of the formed societies is to counsel and to create awareness among the people who affected by diabetic foot. Major societies like Diabetic Society of Singapore, aims to explore the public awareness in diabetic foot, and of quality standards. Established societies like American Diabetes Association are making the society to well aware about to begin your education about diabetes [57-64]. These associations will explore the issues which are surrounded by diabetes. Foundations like International Diabetes Federation which has started with the motto "To promote diabetes care, prevention and a cure to entire world". UNO has officially announced, 14th November as a World diabetes day, aim of this year's activities and materials will be focusing on promoting the importance of screening to make confirmation as early diagnosis of type 2 diabetes and also the treatment to reduce the risk of serious issues.

DISCUSSION

Open Access Script plays an important role in providing the statistics [65-72], content and current researches going through the globe. Journal of Diabetes & Metabolism provides information on complications including childhood diabetes, type-1 diabetes, type-2 diabetes, diabetes cholesterol, endocrine system diseases, complications of hypoglycemia and hyperglycemia [73-79]. Journal of Clinical Diabetes & Practice is an international peer-reviewed scholarly journal, which published the papers across the world on diabetes and its management as a Special edition [44,80-86]. Open access Journals like Diabetes Management are intends to publish peer-reviewed, original articles that address the global health concerns related to diabetes. JOP. Journal of the Pancreas a leading provider of information on diabetic diseases and novel methods of treatment followed. The above cited open access journals on diabetes are the peer-reviewed journals that maintains the quality and standard of the journal. These journals ensure the barrier-free distribution of its subject through open access (online) and by their help in improving in getting more number of citations for authors and will attain good journal impact factors [87-96]. 11th Asia Pacific Diabetes Conference and Expo has explored the theme with "New Developments in Diabetes" which is held at Brisbane, Australia.

Andrew Collier, Professor of Diabetes Care, Glasgow Caledonian University, Consultant in Diabetes & Endocrinology, he has showcased his research in type 1 diabetes [97-100]. He is currently overlooking on collaborative research in the field of metabolic syndrome, diabetic foot ulcers (foot micro-biome) and foot ulcer off-loading. Belma Turan, Professor from Ankara University, Turkey has showcased her work on "Cardiac β-adrenoreceptor subtypes in diabetes and regulation of cardiac β3-adrenergic receptors" in the conference of "13th Global Diabetes Conference & Medicare Expo".

Major types of Diabetes and their major implications

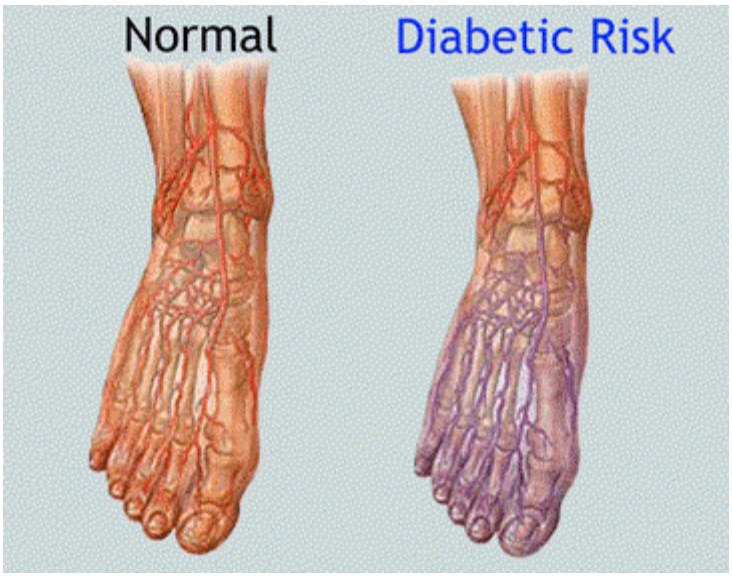
The most common type of diabetes includes Type 1 diabetes, Type 2 diabetes, Gestational diabetes, monogenic diabetes, heart disease [2,75]. Of these diabetes, Type 2 is the most common type of diabetes. People who make to develop type 2 diabetes age in between 45 or older, have family inherited diabetes, or are overweight. Patient affected from diabetic foot due to the insufficient over weight or hyperglycemic level in the blood will have the more probability to get affected [68]. Through Open access healthcare study and literatures, we use to get the information of novel and innovative researches ongoing in the current era [27]. Here we tried to list of few articles which provides the case reports that are much competent enough for an individual to attain knowledge on diabetic foot care.

The easiest diabetic foot infection to cure is Cellulitis, as it not causes the same circulatory limitations, making as it convenient for medications to reach the infection site. Majorly, chronic osteomyelitis, the most difficult diabetic foot infection to cure will require the surgical debridement before going to the antibiotic therapy and it can

be more effective [30]. Glycemic control is suggested for expected outcome and in prior, it is important for microbial eradication and for tissue healing.

Patient who got affected by diabetes features excessive thirst or urination, fatigue, weight loss or blurred vision. Open access will play a crucial role in providing the information of innovative researches which are undergoing in the current era [25,35]. We have listed out articles here which will provide reports that are much needed by a person to get aware of the knowledge on diabetes and diabetic foot. An article entitled Diabetic Foot Evaluation in Family Medicine written by Esad Alibasic of Herzegovina, explains in the study only 40% of patients with ulcer underwent the amputation [94], which will enhances the priority of the implementation of preventive interventions for diabetic foot. Diabetic foot care journals will represents the therapeutically and the preventive methods regarding the diabetic patient care. In the **Figure 1**, it is clearly emphasizes on the differences in a normal foot and diabetic foot. The risk of life is much depends on the severity.

Figure 1: Metabolic risk and differences in a normal foot and diabetic foot



Advancements in the Treatment of Diabetic foot

Preventive steps in diabetic ulcers:

Regular physical examination, most predominantly at vascular, as well as an examination of the patient's footwear as a regular check up by a physician is essential, and should have a regularity in walking and exercising. Proper care should be focused on the foot care. Delay in the foot care will lead to severe problems [54], and my cause threat to the life. Hypoglycemia will also leads to a sever cause as such blood sugar levels can generate a variety of symptoms and effects, but the major problems arise from an inadequate supply of glucose to the brain [26].

CONCLUSION

Glucose Regulation, Hyperglycemia, Hypoglycemia are the major complications which will leads to the severe side effects in the human body and to the ones who are more prevalent to diabetes are to be more care ful. By following proper diet, by taking medications, analyzing blood sugar regularly, by keeping regular diet under control can minimize the risk of diabetic foot. More predominantly, the socks which we use should be cleaned and well sterilized and to avoid the diabetic foot. In general the foot ulcers are serious, but they usually respond well to treatment. Persons who are more predominantly affected with diabetes will have the severity to get the diabetic foot and by proper supervision of foots, can reduce the risk factor. As this is a large growing severity [199,200], need to be much focused on the health care.

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