

Strategies to prevent diabetic foot storm

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Abstract

Diabetic foot is a challenging problem for both physicians and health care professionals. However, the reward of managing diabetic foot is through preventive strategies rather than treating the established complications. Hence, it becomes essential to adopt such strategies. Diabetic foot storm is the new term coined recently that aimed at bringing awareness regarding problems associated with diabetic foot. This article provides a brief framework to understand the diabetic foot problems, the diabetic foot storm and strategies that can be deployed in preventing the diabetic foot storm. We believe that by adopting simple methods of preventive strategies, the burden of diabetic foot can be decreased to a large extent.

Keywords: diabetic foot, Amit Jain, classification, storm, prevention

Introduction

Diabetes is a chronic non communicable disease which is a public health problem, globally affecting both developing and developed countries [1, 2]. The prevalence of diabetes is rising worldwide and it is believed that by 2030, there will be around 366 million people with diabetes [3].

Diabetic foot is one such complication of diabetes which is known to cause significant burden to a health care system, apart from the care givers [4]. Studies have shown that diabetic foot problems accounted for more than 50% of admissions in hospital among diabetics [5]. With more than 15% of diabetic patients developing foot ulcers in their lifetime, it is estimated that 7-20% of them will require amputation [6].

The diabetic foot storm

The term 'diabetic foot storm' was proposed by Amit Jain from India, who designed and pioneered the modern diabetic foot surgery and super modern diabetic foot surgery system [7, 8]. The diabetic foot storm is based on the new classification of problems in diabetic foot [9].

Diabetic foot storm is said to have occurred in patient's life if he has gone through any of the 5 problems of diabetic foot [7, 9]. This new Amit Jain's classification consist of 6 categories (Figure 1) of problems in diabetic foot namely, preponderant, current, concurrent, recurrent, subsequent and supplement [9].

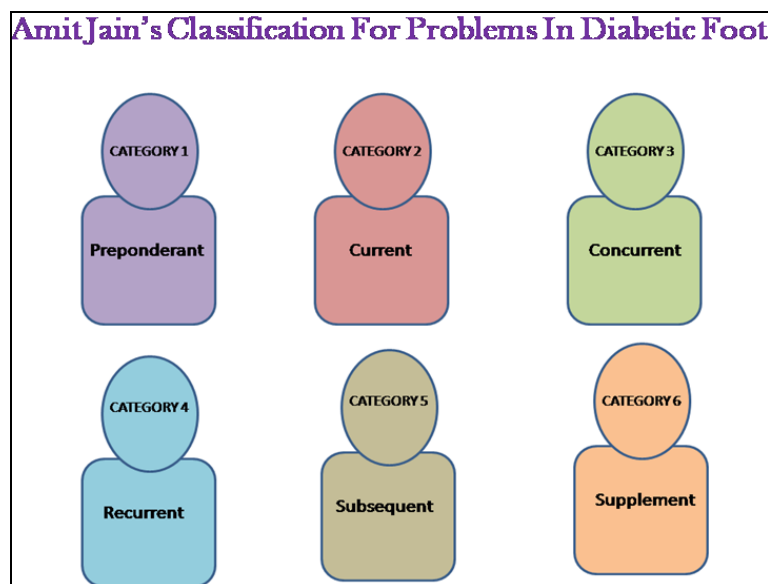


Fig 1: The 6 categories of problems in diabetic foot. The diabetic foot storm is said to have occurred if patient has any of the 5 problems or more.

Diabetes mellitus, which is the preponderant problem, is the root cause of diabetic foot. Long standing diabetes affects the nerves and vessels of lower limb. The patients can have current problems in foot like ulcers, gangrene, cellulites, abscess, etc [7]. The patients with diabetic foot can have other co morbidities which could be due to diabetes affecting other organ system. People define co morbidity to be an occurrence of one or more chronic conditions in the same individuals with the index disease [5]. The concurrent problems in diabetic foot are these co morbidities like hypertension, chronic kidney disease, stroke, ischemic heart disease, etc [7].

What makes diabetic foot a misery is the remaining 3 categories of problem namely recurrent problem, subsequent and supplement problems [9]. It is well known that diabetic foot is likely to have recurrent issues. For example, studies have shown that re-ulceration rate is 35-40% over 3 years [4]. The subsequent problems in diabetic foot include prosthesis related issues in amputees, bedsores problems in bed ridden patients, mortality, etc [9]. The supplement problems associated with diabetic foot are loss of job especially in amputees, psychological problems and also financial losses incurred during prolonged treatment [9].

Preventive strategies

Owing to the fact that there are numerous problems associated with diabetic foot, it becomes imperative for us to prevent diabetic foot storm in the patient. The 3 main strategies which can play essential role in diabetic foot storm prevention consist of education, awareness campaigns and screening (Figure 2).

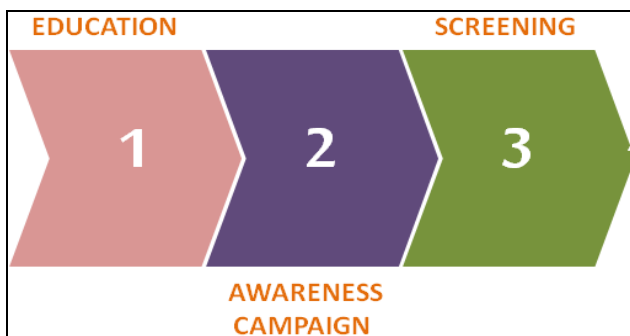


Fig 2: Preventive strategies that can be used to prevent the diabetic foot storm.

Educating the patient plays an essential long term goal in reducing the risk of diabetic foot storm in his own life. Controlling blood sugar and blood pressure from early stage itself, cessation of smoking and lifestyle modification are few such preventive measures the patient can adopt [10]. These patients should be taught about self-foot care and avoid barefoot walking.

Awareness campaigns can play equally important role. The healthcare professionals need to be trained in field of diabetic foot, at least at basic level, to achieve the desire goal of preventing diabetic foot storm. Although, the physician, nurses and other specialist are often busy and burdened with treatment of various diseases, frequent awareness campaigns through CME's, conferences, etc can play some role in the prevention strategies.

Screening of diabetic foot is the biggest preventive strategy that a healthcare professional is responsible. It is well known that inadequate foot evaluation by healthcare experts

has been the main problem in failure of preventive strategies in diabetic foot [11].

There have been few known screening tool that have been practiced in respective zones but recently a new screening tool was laid down from Indian subcontinent of universal significance as any healthcare professionals in any part of the world can perform with ease with minimum resources that is available all around the world [12, 13]. The Amit Jain's screening tool, also known as Amit Jain's linear foot test, Amit Jain's 10-20 sec screening tool, etc was aimed to be the universal screening tool that was adapted from the concept of triple assessment of breast that was followed universally [14, 15]. The screening tool has 3 components namely the Look component which aims to inspect the foot for ulcer or infection, the feel component aimed at assessing blood supply to feet and the Test component that is aimed to check the sensation of the feet [14, 15].

It is well known that up to 75% of diabetic foot problems are preventable and the clinicians should adopt preventive strategies to decrease the diabetic foot burden [16].

Conclusion

Diabetic foot problems are associated with misery, especially for low income patients who can end up in various problems, being unaware of them until they occur. Diabetic foot storm in patient's life can be prevented through various preventive strategies. We believe that the Amit Jain's screening tool can serve one such preventive strategy that can be adopted universally, thereby decreasing the burden of diabetic foot.

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