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Original Research Article

Diabetic Foot Management and Evaluation Based on Wagner's Classification

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Abstract:

Background: Diabetic foot disease is a major complication of diabetes mellitus and a leading cause of non-traumatic lower-limb amputations.

Objective: To evaluate diabetic foot ulcers using Wagner's classification and correlate ulcer grade with management outcomes.

Methods: A prospective study was conducted at PMCH, Patna (February–October 2025) involving 75 patients graded using Wagner's classification.

Results: Wagner grade II and III ulcers were most common. Higher grades required surgical intervention.

Conclusion: Wagner's classification is a simple and effective tool for evaluation and management of diabetic foot ulcers.

Introduction

Diabetes mellitus is a rapidly increasing global health problem, particularly in developing countries such as India [1]. Diabetic foot ulcers are among the most disabling complications, contributing significantly to morbidity and healthcare burden [2–4]. The lifetime risk of developing a diabetic foot ulcer is estimated to be 15–25% [5].

The pathogenesis of diabetic foot ulcers is multifactorial, involving peripheral neuropathy, peripheral arterial disease, infection, and impaired wound healing [6–9]. Loss of protective sensation predisposes patients to repeated unnoticed trauma, while ischemia and immune dysfunction impair healing [10,11].

Several classification systems have been proposed to assess diabetic foot ulcers; however, Wagner's classification remains widely used due to its simplicity and clinical applicability [12–15].

Materials and Methods

This prospective observational study was conducted in the Department of Surgery, Patna Medical College and Hospital. Seventy-five patients with diabetic foot ulcers were included and graded according to Wagner's classification.

Results

Table 1: Shows the distribution of patients according to Wagner's classification. Figure 1 depicts a bar chart illustrating the distribution of Wagner grades.

Wagner Grade	Number of Patients	Management
Grade I	12	Conservative
Grade II	26	Conservative / Debridement
Grade III	21	Debridement
Grade IV	10	Minor amputation
Grade V	6	Major amputation

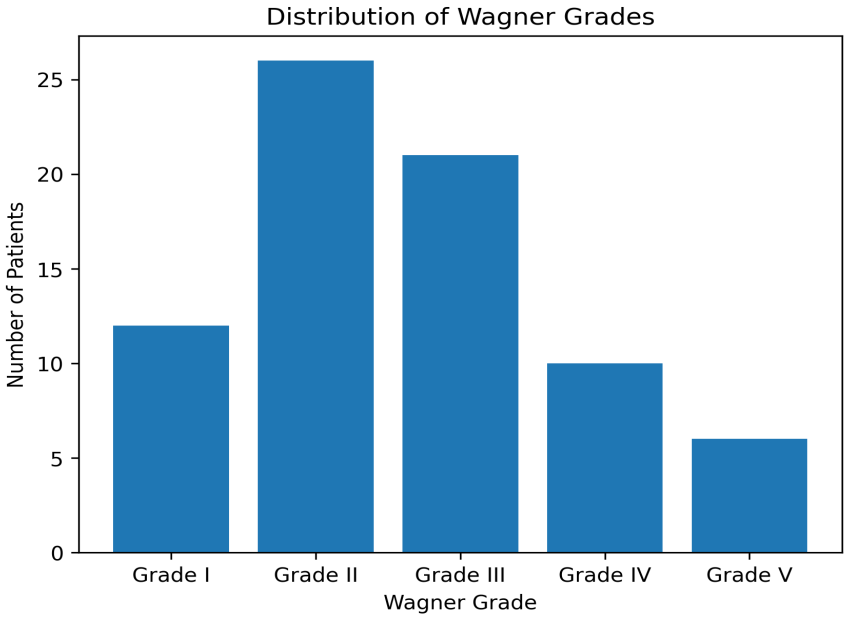

Figure 1: Bar chart showing distribution of Wagner grades.

Discussion

The predominance of Wagner grade II and III ulcers in the present study is consistent with earlier reports [16–18]. Higher Wagner grades were associated with increased need for surgical intervention, supporting the prognostic value of this classification system [19–21].

Although Wagner's classification does not explicitly include vascular assessment, its simplicity makes it useful in routine practice, particularly in resource-limited settings [22,23]. Recent international guidelines emphasize early risk stratification and multidisciplinary care, which aligns with the findings of the present study [24,25].

Conclusion

Wagner's classification is a practical and reliable system for evaluating diabetic foot ulcers and guiding management decisions.

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