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중증 당뇨병 환자에서 HbA1c가 임상 경과 및 사지 예후를 예측하는 지표로서의 유용성

(HbA1c as a Predictor of Clinical Course and Limb Outcomes in Severe Diabetic Foot)



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Purpose: Severe diabetic foot infections frequently require prolonged treatment and may ultimately result in major amputation. While poor glycemic control is known to negatively affect wound healing and infection control, the clinical significance of glycated hemoglobin (HbA1c) as a predictor of disease progression remains underrecognized. This study aimed to evaluate the relationship between HbA1c level at presentation and the clinical course of patients with severe diabetic foot.

Methods: A retrospective analysis was performed on patients presenting with severe diabetic foot requiring surgical management at a tertiary referral center. HbA1c levels at presentation were reviewed and patients were stratified into three groups: $\leq 8.5\%$, 8.5–10%, and $\geq 10\%$. Clinical outcomes including infection control, number of surgical debridements, time to wound stabilization, and amputation rate were analyzed.

Results: Patients with HbA1c $\leq 8.5\%$ generally demonstrated more favorable clinical courses with relatively faster infection control and fewer surgical interventions. Those with HbA1c between 8.5% and 10% showed intermediate outcomes. In contrast, patients with HbA1c $\geq 10\%$ experienced significantly prolonged infection control periods, more frequent surgical debridement, and higher rates of progression to major amputation.

Table 1. Clinical outcomes based on HbA1c level

HbA1c level (%)	Outcome 1 (Healed without surgery)	Outcome 2 (Minor amputation)	Outcome 3 (Major amputation)	Total
≤ 8.5	11	4	1	16
8.5-10.5	7	6	3	16
> 10.5	2	9	4	15
Total	20	19	8	47

Conclusion: HbA1c at presentation may serve as a practical predictor of clinical trajectory in severe diabetic foot. Patients with HbA1c levels above 10% appear particularly vulnerable to prolonged infection and limb loss. Early identification of high-risk patients may facilitate timely multidisciplinary intervention and more aggressive management strategies aimed at limb preservation.