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The Effect of Individualized Glycaemic Intervention for Patients with Diabetic Foot Ulcer (EIGIFU)

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Objective :
Diabetic Foot Ulcer (DFU) is a common complication of Diabetes Mellitus(DM). To date, no prospective study has been performed to assess the effect of glycaemic control in patients with DFU. This is a pilot study conducted to evaluate the association of effect of HbA1c reduction and wound healing.

Materials & Methods: A 12 weeks prospective, non- controlled, open labelled, interventional study in subjects with suboptimal-controlled T2DM patients with DFU was conducted. Antidiabetic medications were adjusted with the aim of at least 1% in relation to patient's individualized HbA1c target. The wound area was determined at each visit by using specific wound tracing. The daily wound area healing rate was calculated in cm2 per day as the difference between wound area at first visit and the subsequent visit divided by the number of days between the two visits.

Results: A total of 19 patients were included in the study. There was a significant mean HbA1c reduction from 10.33 % to 6.89% ($p<0.001$) with no severe hypoglycaemia. The mean HbA1c reduction rate was 31.2%+/-7.5% and the median daily wound area healing rate was 0.2485+/-0.4353cm2/day. There was a strong positive correlation between these two variables. ($r = 0.752, p=0.01$).After dividing the patients into 2 quartiles based on final HbA1c (first quartile vs third quartile), there was a significant difference of daily wound area healing rate (0.597 vs 0.044cm2/day,$p=0.012$).

Conclusion: Even in a small group of DFU patients, the study emphasized the importance and benefits of achieving a lower HbA1c in wound healing.