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INVESTIGATING THE RELATIONSHIP BETWEEN BLOOD KLOTHO LEVELS AND GLYCATED HEMOGLOBIN IN DIABETIC NEPHROPATHY PATIENTS

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Introduction:

Diabetic nephropathy remains a significant complication of diabetes mellitus, characterized by kidney damage due to prolonged high blood sugar levels. Glycated hemoglobin (HbA1c) is a crucial indicator of long-term glucose control in diabetic patients. Recent studies have suggested a potential association between blood klotho levels, a protein with renal protective properties, and glycemic status in diabetic nephropathy. This study aims to explore the relationship between blood klotho levels and glycated hemoglobin in diabetic nephropathy patients.

Methods:

Patients with diabetic nephropathy were divided into two groups based on their glycated hemoglobin levels: Group 1 (target HbA1c) and Group 2 (high HbA1c). Blood samples were collected from each group, and the levels of glycated hemoglobin, blood klotho, and glomerular filtration rate (GFR) measured by creatinine-cystatin C were analyzed.

Results:

In Group 1, characterized by target glycated hemoglobin levels, the mean HbA1c was 6.04 ± 0.6%, whereas in Group 2, with high glycated hemoglobin levels, it was significantly higher at 10.6 ± 1.81%. Correspondingly, blood klotho levels were higher in Group 1 (345 ± 32.4 pg/ml) compared to Group 2 (277 ± 22.9 pg/ml). Interestingly, the glomerular filtration rate (GFR) measured by creatinine-cystatin C was slightly lower in Group 1 (66.48 ± 6.3 ml/min/1.73 m^2) compared to Group 2 (70.2 ± 6.45 ml/min/1.73 m^2), although not statistically significant.

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Discussion:

The findings of this study suggest a potential relationship between blood klotho levels and glycated hemoglobin in diabetic nephropathy patients. Group 1, with target HbA1c levels, exhibited higher blood klotho levels compared to Group 2, indicating a possible protective role of klotho in maintaining glycemic control. This suggests that klotho may play a part in modulating glucose metabolism and potentially mitigating kidney damage associated with high HbA1c levels. However, further research is needed to elucidate the underlying mechanisms and establish causality.

Conclusion:

In conclusion, this study provides preliminary evidence of a link between blood klotho levels and glycated hemoglobin in diabetic nephropathy patients. Target HbA1c levels were associated with higher blood klotho levels, suggesting a potential protective effect against kidney damage. Understanding the role of klotho in glycemic control and renal function could lead to novel therapeutic strategies for managing diabetic nephropathy. Further investigation into the molecular mechanisms underlying this relationship is warranted to validate these findings and explore potential therapeutic interventions.