

中文題目：GDF-15 與慢性腎臟病人貧血之相關性

英文題目：GDF-15 is independently associated with anemia in patients with CKD

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Background: Growth differentiation factor-15 (GDF-15) is a member of the TGF- β cytokine superfamily. GDF-15 is highly expressed in kidney tissues and is associated with CKD. Anemia is a common and significant complication of CKD. GDF-15 may play a role in CKD anemia, but the association of GDF-15 with hemoglobin levels in patients with CKD has not been well characterized.

Method: We performed a cross-sectional study of 268 patients (66 \pm 13 years) with stage 3-5 CKD who were not yet on dialysis. GDF-15 was measured in plasma samples using Human GDF-15 Quantikine ELISA (R&D Systems, Minneapolis, MN). Univariate and multivariate logistic regressions were used to explore correlations between patient characteristics and anemia.

Results: Patients were stratified into two groups according to their baseline hemoglobin levels [anemia (hemoglobin <12 g/dl for men and hemoglobin <12 g/dl for women) or not]. Patients with anemia were older, tended to be female and diabetic, had significantly lower BMI, eGFR, and serum albumin levels, but had significantly higher proteinuria, IL-6, NT-proBNP, and GDF-15 levels compared to those without anemia. GDF-15 correlated negatively with hemoglobin levels. In a stepwise multivariate logistic regression analysis, eGFR, serum albumin, NT-proBNP, and GDF-15 were all independently associated with anemia.

Conclusion: GDF-15 is independently associated with anemia in patients with CKD. Further understanding regarding the signaling pathways of GDF-15 may help to provide novel treatment strategies for anemia in CKD.