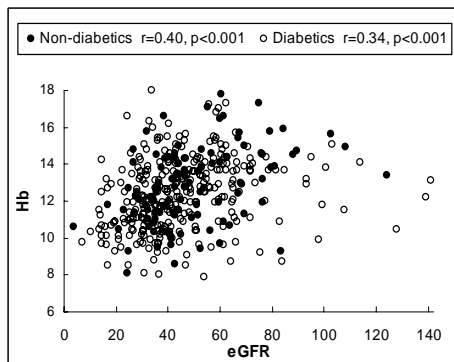RELATION BETWEEN HEMOGLOBIN (HB) AND KIDNEY
FUNCTION (EGFR) IN DIABETICS (DM) VS. NONDIABETICS
(NDM) WITH NEPHROPATHY.

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The purpose of this study was to test the hypothesis that Hb level is
lower in DM as compared to NDM with nephropathy, independent of
GFR. We evaluated Hb level and eGFR among 451 (DM=303 and
NDM=109) EPO naïve patients during their first visit to our inner city
CKD clinic. Diabetes was diagnosed by history and treatment with diet
and glucose lowering drugs. Estimated GFR was determined by 4-
variable MDRD equation. To further assess the relation between Hb and
eGFR we evaluated the effect of age, gender, race, eGFR, serum iron,
TIBC, %transferrin ferritin, BMI, Ca, Pi and PTH and ACEi/ARB use.
Parameters among DM and NDM were compared by Student t-test.
Pearson correlations were used to assess the association between Hb,
eGFR and other variables. Multiple regression was used to assess the
contribution of parameters that predict Hb level. Values are mean (sd) or
percent. First visit parameters were: Age 61(12) yrs, 62% African-
American, 18% Hispanic, 17%Caucasian, 60% male, BMI 32.7 (8.1),
eGFR 46.2 (20.6), A1C 6.7 (1.7), Hb 12.4 (1.9), Ca 9.3 (0.6), Pi 3.5(0.8)
and PTH 119 (110). Fifteen % of NDM and 53.5% of DM were on
ACEI/ARB. There were no significant differences between DM and
NDM for any of the measured variables. There was a strong and
consistent inverse correlation between Hb and eGFR (figure). In
multivariate analysis combining DM and NDM, eGFR, sex, Ca, and Pi were significant predictors of Hb (p<0.005 for all four) after non-significant (p>0.20) predictors were removed from the model. We conclude Hb level is not lower in DM as compared to NDM with nephropathy, independent of GFR.