Prevalence of anemia in patients with Type 2 Diabetes mellitus

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Introduction and objectives: Anemia is encountered frequently in patients with Type 2 Diabetes Mellitus(T2DM) and can lead to development of micro and macro-vascular complications. Our study aimed to determine the prevalence and causes of anemia among patients with T2DMand describe the relationship between anemia and associated factors such as gender, age, diet control, duration of Diabetes and type of drugs used for control of diabetes.

Methodology: The study was conducted at the diabetic clinic at the Family Medicine Center, University of Sri Jayewardenepura. 102 adult patients diagnosed with T2DMwere included. Full Blood Counts were performed and patients with hemoglobin of less than 12g/dl (females) and 13g/dl (males) were identified, red cell indices analyzed and S.Ferritin level performed. Further data regarding duration of disease, medication, S.Creatinine, presence /absence of renal disease, presence of complications of diabetes, most recent fasting Blood Sugar level, HbA1C were obtained from questioning patients and by perusing clinical records.

Results: Mean hemoglobin was 11.98 ± 1.79 g/dl(12.92 ± 2.49 g/dl in males ,11.60 ± 1.24 g/dl in females).35.29%(36/102) of patients with T2DMwere identified as anemic. 16.67%(5/30)of the male patients and 43.06%(31/72)of the female patients were anemic. Iron deficiency anemia was present in 11.11%(4/36), hemoglobinopathy in 11.11% (4/36) and anemia of chronic disorder in 77.78%(28/36) (S. Ferritin >18ng/ml)
90.2% of patients were on oral hypoglycemics,1% was on insulin and 8.8% were on combined insulin and oral agent .There was no significant correlation between mode of treatment and prevalence of anemia(p=0.322).
Presence of anemia was significantly related to age(p=0.036), gender (p=0.01),duration of diabetes mellitus(p=0.002) and presence of Chronic Kidney Disease(p=0.001).Retinopathy did not having a significant association with anemia(p=0.05).

Conclusion: Every third individual in a population of diabetes mellitus could be anemic(35.29%).Therefore anemia detection should be included in routine management, specially with increasing age , female gender , increased duration of disease. As the treatment of anemia of chronic disorder is treatment of the underlying disease proper management of diabetes will reduce the prevalence of anemia . It will also help minimize the risk of micro and macro vascular complications and enhance the life quality of T2DM.