A STUDY OF ANAEMIA IN TYPE II (MATURITY ONSET)
DIABETIC PATIENTS

J.M.K.B. JAYASEKARA[1] AND D.M. DISSANAYAKE[2]

[1] Department of Oral Medicine, Faculty of Dental Science,
[2] Department of Pathology, Faculty of Medicine, University of Peradeniya

Diabetes mellitus is one of the most common diseases in Sri Lanka. Among the number of complications associated with diabetes, anaemia is the most undetected and unknown complication in the Sri Lankan population. The objective of this study was to investigate the prevalence of anaemia in diabetic patients by analyzing the haemaglobin (Hb) and red cell parameters of patients who attended the routine diabetic clinic at the Teaching Hospital Peradeniya. The study was carried out during 2005-8-10 to 2006-06-30.

Haemoglobin and red cell parameters of diabetic patients were compared with age and sex compatible non diabetic healthy control population (20 males and 20 females). Haemoglobin levels and full flood count (FBC) including mean cell haemoglobin (MCH), mean cell heamoglobin concentration (MCHC), mean cell volume (MCV), red blood cell count (RCC), packed cell volume (PCV)) were measured using fully automated haematology analyzer (Diana-evolution) for both diabetic patients and control groups. Furthermore, their peripheral blood films were examined for morphological classifications to confirm the above findings and to identify the likely cause of anaemia.

Ninety diabetic patients (mean age 57.22 ± 6.5 years) were included in the study (48 males and 42 females). According to the WHO guidelines, 30% of the diabetic patients in the study group had anaemia. When compared to the control group, haemoglobin levels of patients were significantly lower (male p=0.0000 and female p= 0.0018). MCH and MCHC values of the patients were significantly lower than in the controls group (MCH p=0.0000 and MCHC p= 0.0000). However, MCV values of the patients did not show any significant difference from the control group (p=0.89). Sex dependent parameters such as RCC and PCV values were compared separately. RCC did not differ between the two groups. (Male p=0.072 and female p= 0.46). However, PCV of male diabetic patients were significantly lower when compared to the control group (p=0.0085). A similar pattern was not seen in females (p=0.96). Of the anaemic patients, 96.2 % (n= 26) had anaemia of chronic disorder, 3.8 % (n=1) had anaemia due to thalassaemia trait. Iron deficiency anaemia was not detected among diabetic patients.

The study shows that there is a higher prevalence of anaemia in diabetic patients and in most of the patients it is due to anaemia of chronic disorder. Studies in other countries too have shown similar patterns. The pathogenesis of anaemia in diabetic patients need to be studied and will be useful in the treatment of this condition. The role played by the oral hypoglycaemic drugs, renal disease, diabetic diet and associated infections need to be assessed. Furthermore, maintaining a normal haemoglobin level will improve the quality of life of these patients.