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Serum immunoglobulin concentrations in diabetic patients.

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Abstract

The relationship between glycated haemoglobin (an index of long-term diabetic control), fructosamine (an index of intermediate-term diabetic control), and serum IgA, IgG, and IgM was studied in 110 diabetic patients (41 Type 1 and 69 Type 2) and compared with 111 healthy non-diabetic subjects. Significant increases in serum IgA (by 82.7%, $p < 0.001$) and IgG (by 35.2%, $p < 0.001$) concentrations were observed whereas the concentration of IgM was significantly decreased (by 46.7%, $p < 0.001$) in diabetic patients compared with non-diabetic subjects. Using Spearman's rank correlations, IgA correlated with fructosamine ($r = 0.77$, $p < 0.001$), HbA1 ($r = 0.76$, $p < 0.001$), and albumin ($r = -0.58$, $p < 0.001$) for the entire population sample but only fructosamine ($r = 0.19$, $p < 0.05$) and HbA1 ($r = 0.28$, $p < 0.001$) correlated with IgA in diabetic patients, respectively. It is concluded that abnormal levels of IgA, IgG, and IgM are very common in diabetic patients in whom serum IgA concentrations are influenced by the degree of glycaemic control. Whether changes in IgA and other immunoglobulins are implicated in the pathogenesis of diabetic complications (such as susceptibility to infection) deserve further study.