Utility of Serum IgG4 Levels in a Multi-Ethnic Population

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Objectives:
To compare serum IgG4 levels in Asian and non-Asian patients with IgG4-related disease (IgG4-RD) for diagnostic purposes.

Method:
This is single-center retrospective study of 36 patients with histologically confirmed IgG4-RD. Serum IgG4 levels, as well as clinical features, other laboratory findings, and disease trajectory were compared between Asian and non-Asian patients.

Results:
The serum IgG4 at time of diagnosis was significantly higher in Asian (13.2 ± 10.9 g/L) than non-Asian patients (3.8 ± 3.5 g/L) (P = 0.017). The sensitivity of elevated serum IgG4 was higher in Asians alone than for all patients (96% vs 88%) as was the negative predictive value of normal or low serum IgG4 (96% vs 77%). The mean serum level of IgG and polyclonal hypergammaglobulinemia were also significantly higher in Asians than non-Asians (P = 0.017, 0.001 respectively). Statistical analysis was done by student's t-test.

Conclusions:
Asian patients with IgG4-RD have more exuberant serum IgG4, IgG and polyclonal hypergammaglobulinemia than non-Asians; the mechanism of this difference requires further study. The higher serum IgG4 level in Asians confers a greater sensitivity and negative predictive value in the diagnostic workup of Asians with suspected IgG4-RD.