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Title: Common Variable Immune Deficiency, an Outpatient Experience

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Background: Common variable immunodeficiency (CVID) is one of the most common primary immunodeficiencies encountered by physicians, yet it is still poorly described and vastly underdiagnosed and underreported. It is characterized by low levels of immunoglobulins IgG, IgM and IgA, recurrent infections, and increased incidence of autoimmune conditions and malignancies. Diverse clinical presentation, poor understanding of its true prevalence, and the daunting, rarely ordered, diagnostic testing make this disease incredibly difficult to diagnose in a primary care setting.

Objective: To establish a simple marker that can be used in a primary care setting to raise suspicion of CVID and prompt further diagnostic testing. The second objective was to demonstrate that the true prevalence of CVID is much higher than previously reported.

Methods: Data on 441 patients who underwent immunoglobulin electrophoresis testing over a 4-year period was analyzed retrospectively for the presence of hypogammaglobulinemia and number of clinic visits for infectious processes.

Results: Average number of clinic visits prior to testing in patients with no identified antibody deficiency was 1.89, and in patients with any deficiency 2.22. Odds ratio (OR) for each additional visit was 1.089 which was not statistically significant ($p=0.103$). When the data was re-coded to be capped at six clinic visits, OR for each visit up to six was 1.119 which was marginally significant ($p=0.058$).

Conclusion: Patients with immunoglobulin deficiencies tend to have a higher number of office visits related to infectious processes. This difference, however, wasn't statistically significant in our study, likely due to the small number of participants. Our study also demonstrated that prevalence of CVID is likely much higher than currently reported, and it highlights the difficulties related to the convoluted diagnostic process of this disease.

Keywords: Common variable immunodeficiency; CVID; hypogammaglobulinemia; immunoglobulin deficiency; antibody deficiency.

Key points: CVID is more common than diagnosed, CVID is frequently missed.