

Depressive symptoms are common in adult CVID patients and may be associated with T cell (subset) abnormalities

Depressive mood disorders in relation to T cell abnormalities in a cohort of common variable immune deficiency patients



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Introduction

- Common variable immune deficiency (CVID) is characterized by diverse somatic clinical features – recurrent infections, autoimmunity, risk of malignancies – however, little is known about psychiatric comorbidities in CVID, including depressive disorders.
- Depressive disorders may result from the psychological burden of chronic illness, but may also occur due to underlying immune dysregulations, particularly in the T cell compartment.^{1,2}

Aims

- To determine in our cohort of adult CVID patients:
 - the prevalence of depressive disorders
 - the frequency and nature of T cell aberrancies
- To investigate whether or not depressive disorders are associated with T cell subset aberrancies

Methods

- Patients with CVID from the department of clinical immunology were prospectively enrolled and screened for depressive symptoms using the short, written Patient Health Questionnaire-9 (PHQ-9).³ When a patient scored 6 points or higher, a structural diagnostic interview was performed using the Schedule for Affective Disorders and Schizophrenia (SADS)⁴ and the Hamilton Depression Rating Scale (HAM-D)⁵; see figure 1.
- Blood samples were collected for B and T lymphocyte subset analysis.

Results

- 40 patients were included, see figure 2.
- Out of 33 patients on which laboratory analysis was performed, total T cells were increased in 4 patients and decreased in 4 patients, compared to reference values.
- CD4+ T cells were increased in 3 patients and decreased in 3 patients. CD8+ T cells were increased in 2 patients.
- Four of 33 patients had both a depressive mood disorder and abnormal total T cell counts (decreased in 1 patient and increased in 3 patients)
- Total T cells, CD4+ T cells and CD8+ T cells are significantly increased in patients with moderate depression, compared to patients with no depression, see figure 3.

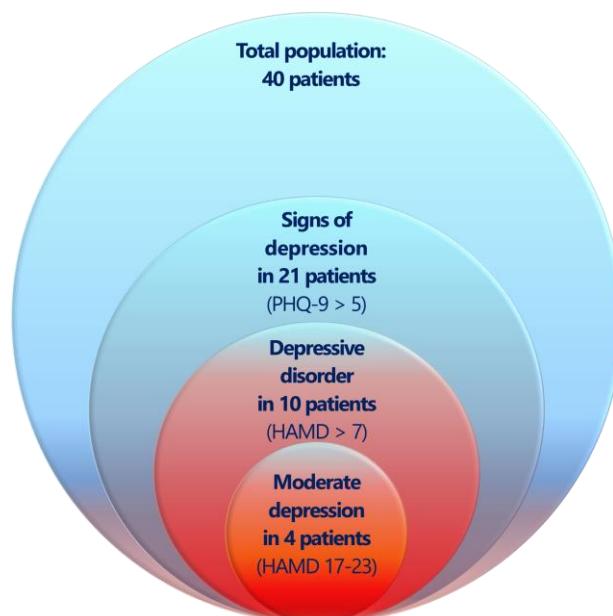


Figure 2: Prevalence of depressive disorder in CVID patients

Discussion

- Depressive mood disorders are common in adult CVID patients.
- Mental health assessment should be implemented in standard of care for CVID patients
- Although the PHQ-9 is useful and convenient for the assessment of depressive disorders in adult CVID patients, we suggest adding a more in-depth psychological assessment.
- There were no significant differences found in B cell or NK cell (sub)populations, between patients or without depression
- Follow-up analyses will be performed to evaluate potential aberrancies within T_H subsets: T_H1, T_H2, T_H17, Treg as well as other cell types including monocytes.

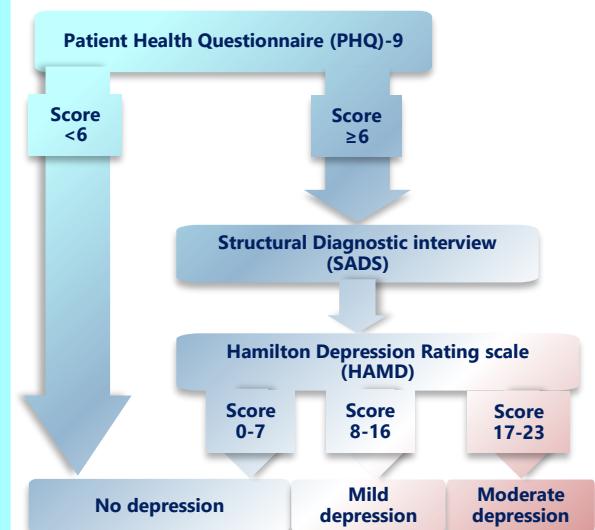


Figure 1: Flowchart of depression screening

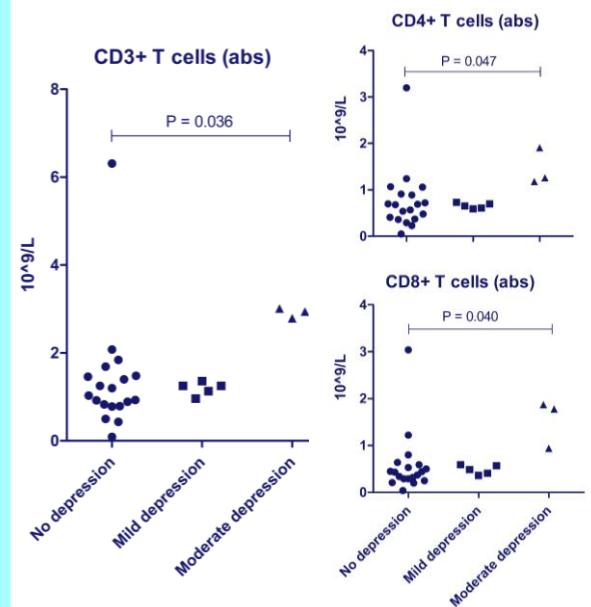


Figure 3: Comparison of total T cells, CD4+ T cells and CD8+ T cells in patients with no depression vs. mild to moderate depression. (Kruskal Wallis statistics = 6.63, 6.14, 6.44, resp.; Dunn's Multiple Comparison's test was performed. N = 33)

References:
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