IMMUNE DYSREGULATION IN CHRONIC INFLAMMATORY DEMYELINATING POLYNEUROPATHY (CIDP)

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INTRODUCTION: The mechanisms for immune dysregulation in chronic inflammatory demyelinating polyneuropathy (CIDP) and potential therapies to ameliorate known regulatory T cell dysfunction in this disease remain understudied. CIDP treatments have not changed substantially in decades, and not all patients respond optimally to available therapies. A better understanding of immune dysregulation can potentially offer new targets for treatment or provide a serologic biomarker for monitoring of the disease. We hypothesize that dysfunction in regulatory T cell (Treg) and IL-10 producing regulatory B cell (B10 cells) populations propagates the loss of self-tolerance in CIDP.

OBJECTIVE: To perform comprehensive immune phenotyping of Treg and B10 cells in order to identify mechanisms and signatures of inflammatory autoimmune responses in patients with CIDP.

METHODS: In this study of 25 patients with CIDP (as defined by clinical and European Federation of Neurological Societies/Peripheral Nerve Society criteria), 25 healthy control subjects, and 25 patients with noninflammatory neuropathy, we will perform flow cytometry analysis for qualitative and quantitative assessment of Tregs and B10 cells. Specifically, we will measure IL-10, an immunosuppressive cytokine produced by B10 cells, and identify Treg subsets associated with Treg activation and function.

RESULTS: Assays are currently ongoing.

SUMMARY/CONCLUSION: A final analysis of the data will be presented at the meeting. These data will provide valuable information on mechanisms of immune regulatory dysfunction in CIDP.