

## **Subcutaneous Immunoglobulin Infusion in a Patient with Common Variable Immunodeficiency who was Unable to Tolerate an Intravenous Administration**

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**Rationale:** In the United States, intravenous immunoglobulin (IVIg) replacement is the primary treatment for antibody deficiency disorders. Although administration can be performed via either the intravenous or subcutaneous route, the latter is not approved by the Food and Drug Administration (FDA) and therefore not usually discussed or offered to patients. However, IV administration of immunoglobulin in occasional patients results in adverse effects ranging from chills, fever, headache, malaise, and nausea to chest pain, aseptic meningitis, and even anaphylaxis. The frequency of these reactions is variable, but occurs in approximately 10% of patients especially during the first several infusions. Subcutaneous immunoglobulin (SCIg) infusion has been demonstrated to reduce the incidence of many of these side effects.

**Methods:** We review the case history of a patient with common variable immunodeficiency (CVID) who was unable to tolerate IVIg replacement therapy.

**Results:** The patient is a 45 year-old female, residing in northern Maine, who was diagnosed with CVID one-and-a-half years earlier after experiencing multiple pulmonary infections requiring monthly antibiotic therapy. Her immunoglobulin levels are (mg/dL): IgG (326), IgA (<7), and IgM (11). She was previously given Gammagard-SD®, 40 grams every three weeks and reports having suffered severe back pain affecting her mobility and activities of daily living occurring two or three days after each infusion. Pretreatment with corticosteroid and antihistamine preparations proved ineffective in mitigating her symptoms. The patient experienced a 50 lb. (23 kg) weight gain secondary to receiving as much as 40 mg of dexamethasone with each infusion. As a result, she elected to discontinue IVIg replacement therapy and, after several months, was referred to our center. She was given a SCIg infusion of Gammagard-SD®, 10 grams weekly, and has not experienced the previous debilitating effects due to intravenous administration. Especially important is that she has been able to institute this regimen in her home environment as a tertiary medical center is not readily accessible.

**Conclusions:** SCIg replacement therapy is a viable alternative to IVIg administration and its use should be broadened in an effort to improve the quality of life in those patients experiencing adverse effects from receiving IVIg.