Supporting your patient beyond immunodeficiency: a dietitian-led nutrition pilot program
Amanda Scippa, RD, LDN, CNSC; Lauren Murphy, RD, LDN, CNSC; Kara Kelly, M.Ed, RD, LDN, CNSC; Megan Flinn, RD, LDN, CNSC; Jill Agin, RD, LD, CNSC
KabaFusion, LLC, Lexington, Massachusetts

Background
Common Variable Immunodeficiency (CVID) results in inadequate antibody production causing the immune system to ineffectively fight off viruses and bacteria leading to recurrent infections. Malnutrition rates may be higher amongst patients with CVID due to more frequent infections and treatments that result in poor nutrition intake. It was found that a complete nutrition assessment is warranted rather than nutrition screening alone for patients with CVID. Home infusion companies dispensing Immunoglobulin (IG) medications to treat CVID can provide a comprehensive approach to the care of these complex patients by offering additional supportive care services, such as access to a dietitian.

Purpose
The aim of this IG Nutrition Pilot Program was to provide a nutrition assessment by a home infusion Registered Dietitian (RD) to patients with a diagnosis of CVID whom receive IG therapy to gauge the level of interest in nutrition services, explore malnutrition rates and determine common nutrition interventions for this population.

Methods
A KabaFusion report was developed identifying patients that initiated IG therapy, either intravenously or subcutaneously, from June 1, 2022, through May 31, 2023, have a primary diagnosis of CVID, and remained an active patient when assessments were conducted from June 20, 2023, through July 30, 2023. Exclusion criteria included patients less than 18 years old and patients that discharged off service before June 20, 2023. An equal number of subcutaneous and intravenous patients were randomly selected from the remaining patients to receive a telephonic nutrition assessment by a home infusion RD to determine if the patient met criteria for malnutrition based on a modified version of the Global Leadership Initiative on Malnutrition (GLIM) criteria (see table 1) and if the patient had any nutrition-related concerns for which interventions were appropriate. Each patient was called twice, if unreachable, the assessment was deferred. Appropriate nutrition interventions and education were tailored to patients’ needs.

Results
• 222 patients called, equally divided between IVIG and SCIG
• 131 patients (59%) reached; 90 patients (41%) unreachable
• 78 patients (60%) participated in a nutrition assessment
• 42 patients (54%) were interested in a follow-up assessment in 3-6 months
• 75 interventions were provided by RDs; see graph 1
• 11 patients (14%) identified as having malnutrition based on modified version of GLIM criteria

Table 1: Global Leadership Initiative on Malnutrition (GLIM) criteria

<table>
<thead>
<tr>
<th>Phenotypic Criteria</th>
<th>Etiologic Criteria</th>
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<tbody>
<tr>
<td>Weight Loss (%)</td>
<td>Reducing food intake or assimilation</td>
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<tr>
<td>Excess &gt;5% within past 6 months or &gt;10% beyond 6 months</td>
<td>&lt;50% of energy requirements &gt;1 week or any reduction for &gt;2 weeks or any chronic GI condition that adversely impacts food assimilation or absorption</td>
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<tr>
<td>Low Body Mass Index (kg/m²)</td>
<td>Reducing muscle mass as subjectively reported by patient</td>
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<tr>
<td>&lt;20 if &lt;70 years or &lt;22 if &gt;70 years</td>
<td>Acute disease/injury or chronic disease-related</td>
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<tr>
<td>Reduced muscle mass</td>
<td>Inflammation</td>
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</tbody>
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*Diagnosis of malnutrition requires at least 1 phenotypic criterion and 1 etiologic criterion

Discussions
No financial support was provided by industry for this pilot program.

References
1. “Common Variable Immunodeficiency.” American Academy of Allergy Asthma & Immunology. https://www.aaaai.org/conditions-treatments/primary-immunodeficiency-disease/common-variable-immunodeficiency#:~:text=Common%20variable%20immunodeficiency%20(CVID)%2C%20also%20known%20as%20 primary%20immunodeficiency%20disease%20%28Sinopulmonary%20Infections%29%2C%20is%20a%20disorder%20of%20the%20immune%20system%20that%20results%20in%20deficiency%20of%20antibodies%20produced%20by%20the%20body%2C%20leading%20to%20recurring%20infections%2C%20and%20other%20symptoms%20such%20as%20fatigue%2C%20fever%2C%20and%20weight%20loss.%20CVID%20is%20the%20most%20common%20type%20of%20primary%20immunodeficiency%20disease.%20