

## BACKGROUND & OBJECTIVES

Enteral nutrition intolerance (ENI) may interfere with delivery of nutrition and has been reported as a common complication associated with tube feeding.<sup>1</sup> ENI is often described as the presence of one or more gastrointestinal (GI) symptoms.<sup>2</sup> Patient quality of life and overall health and wellbeing may be affected by ENI.<sup>3</sup> A variety of strategies are utilized to manage ENI including medications, reducing formula volume, and/or changing the enteral nutrition (EN) formula.<sup>1,3,4</sup>

**Objective:** To evaluate changes in feeding tolerance in adults switched from an intact protein based formula to a 100% whey peptide-based formula in a complex continuing care facility in Ottawa, ON, Canada.

## METHODS

- Retrospective study in a real-world practice setting in tube fed adults (> 18 years) living in a complex continuing care facility.
- Inclusion criteria: subjects must be prescribed EN providing  $\geq 90\%$  of estimated daily calorie and protein needs and switched from an intact protein formula to a whey peptide-based formula due to reported feeding intolerance; baseline data on reason for formula switch and ENI symptoms documented; received intact protein formula at least 3 days prior to switch, on peptide-based formula  $\geq 2$  weeks after switch
- Exclusion criteria included recent abdominal surgery and/or infections at time of formula switch.

## DATA COLLECTED

- Demographics – age, gender, enteral feeding route, height/weight/BMI (kg/m<sup>2</sup>) 30 days prior to and 30 days after formula switch, admission diagnoses, all diagnoses at time of switch
- Rationale for formula switch. Gastrointestinal tolerance pre- and post-switch. Use of medications to manage ENI.
- Tolerance assessments by healthcare providers regarding responses to the switch were categorized as “Improved”, “No change”, or “Worsened”

## RESULTS

- 329 medical records of patients on EN screened
- 10 patients met inclusion criteria
  - Reasons for exclusion included: missing baseline data, admitted on peptide-based formula with no documentation on prior formula or reason for switch, recent infection, receiving supplementary EN (<90% estimated needs), on enteral formula < 2 weeks

**Table 1: Characteristics of Study Population**

Variable	N=10
Gender, Male	6 (60%)
Age (y) <sup>a</sup>	63.8 +/- 10
Feeding route <sup>b</sup>	8 G-tube; 1 J-Tube
Weight (kg) <sup>a,c</sup> Prior to formula switch	66.6 +/- 9.4
Weight (kg) <sup>a,d</sup> After formula switch	68.7 +/- 17.4
BMI (kg/m <sup>2</sup> ) <sup>a</sup> Prior to formula switch	23.6 +/- 4.7
BMI (kg/m <sup>2</sup> ) <sup>a</sup> After formula switch	24.3 +/- 8.1

<sup>a</sup> Values are mean  $\pm$  standard deviation; <sup>b</sup> route missing for 1 patient  
<sup>c</sup> missing weight on 3 patients; <sup>d</sup> missing weight on 1 patient

**Table 2: Admitting Diagnoses**

Admitting Diagnoses	N=10
Hemorrhagic Stroke	2
Neurodegenerative Disease	2
Cancer	2
Dementia	1
Zollinger-Ellison Syndrome	1
Respiratory Illness	1
Esophageal Perforation	1

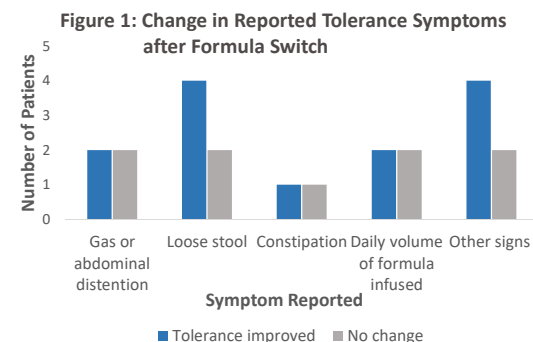
**Table 3: Primary Reason for Switch, by Symptom Category**

Symptom	N (% out of 12) <sup>a</sup>
Diarrhea/Loose Stool	5 (42%)
Abdominal Distention, Gas, Delayed Gastric Emptying	3 (25%)
Reflux, Nausea, Vomiting	2 (16.5%)
Other	2 (16.5%)

<sup>a</sup> More than one reason may have been provided for a patient, so N sum is greater than the total # of patients

## RESULTS

- Complete data on overall feeding tolerance and medication use were available for 8/10 subjects. ENI was reported as improved after switch in all eight.
- Improvements were observed in: excessive gas or abdominal distention (2/4 cases); loose stool (4/6 cases); constipation (1/2 cases); daily volume of formula infused (2/4 cases) and other signs of intolerance (4/6 cases) [Figure 1].
- Of the identified feeding intolerance-related medications used prior to the formula switch, 4/8 subjects had a reduction or discontinuation in medications after the switch.



## CONCLUSION & IMPLICATIONS

Switching to a 100% whey peptide-based formula was associated with improved feeding tolerance in these tube fed adults experiencing ENI.

While the number of patients in this retrospective case series is small, the experience of these patients may be similar to other individuals on long-term tube feeding. In addition, improvements in GI symptoms may have implications for quality of life and nutrition delivery in patients requiring longstanding EN.