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ORIGINAL ARTICLE

**Pyridostigmine improves feeding tolerance in pediatric intestinal pseudo-obstruction: A single-center analysis**

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**Abstract**

Objectives

Primary and secondary forms of pediatric intestinal pseudo-obstruction (PIPO) are severe intestinal dysmotility disorders with a high risk of mortality and poor quality of life. Nutritional supports and current management have improved in part the prognosis, although several unmet needs challenge physicians. Prokinetic drugs may facilitate enteral nutrition (EN)/oral feeding (OF) and decrease parenteral nutrition (PN). Pyridostigmine has been effectively used in adults with severe gut dysmotility; however, experience in PIPO patients is still limited.

Methods

Patients intolerant to EN/OF in the previous 6 months were treated with pyridostigmine. We studied nutritional outcomes (caloric intake by EN/OF and PN as well as growth) at the beginning and after 6 and 12 months of pyridostigmine. Also, we collected clinical outcomes 12 months before and after pyridostigmine treatment.

Results

A total of 10 patients were included in the data analysis. Pyridostigmine (0.44–3.4 mg/Kg/day) resulted in a significant increase in EN tolerance: median caloric intake by EN/OF was >25% at 12 months (*p* = 0.0156). In two patients, we achieved complete weaning from PN. In all patients, there was an amelioration of growth (increase in median weight *z*-score from −1.3 to −0.9) and a reduction in the number of hospitalizations and central line-associated bloodstream infections in the year following pyridostigmine treatment. Only one patient developed pyridostigmine-related bradycardia.

Conclusions

This study showed that pyridostigmine supported the nutritional management by improving EN/OF tolerance and reducing PN dependence. Our data provide a basis for future, ad hoc designed clinical trials testing pyridostigmine in PIPO.

**CONFLICT OF INTEREST STATEMENT**

The authors declare no conflicts of interest.