Case Report

Challenges and strategies of nutritional therapy in Ogilvie syndrome in a critically ill patient: a case report

Desafios e estratégias da terapia nutricional na síndrome de Ogilvie em paciente crítico: relato de caso

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Nayara Ferreira Bianchi[1]

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Address for correspondence:
Nayara Ferreira Bianchi
Casa de Saúde Santa Marcelina Itaquera, Rua Santa Marcelina, 177 – Itaquera – São Paulo, SP, Brasil – CEP: 08270-070
E-mail: nbianchi@unifesp.br

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ABSTRACT

Introduction: Ogilvie syndrome is characterized by colonic dilatation without mechanical obstruction and is associated with high morbidity and mortality in critically ill patients. Prolonged intestinal dysmotility frequently compromises tolerance to oral and enteral routes, making nutritional therapy a relevant challenge in multidisciplinary management. This study reported the challenges and strategies adopted in the nutritional therapy of a critically ill patient with Ogilvie syndrome. **Case description:** A 63-year-old male patient with multiple comorbidities was admitted after major vascular surgery and subsequently developed Ogilvie syndrome. Persistent intolerance to oral and enteral routes, characterized by abdominal distension, vomiting, and high gastric output, led to prolonged fasting and the initiation of total parenteral nutrition, with gradual progression of energy-protein supply. Initial attempts to reintroduce oral feeding were poorly tolerated, requiring temporary maintenance of parenteral nutrition. After clinical stabilization, a gradual transition to semi-elemental enteral diet in a trophic regimen was performed, associated with progression of oral intake, with good tolerance until hospital discharge. Significant weight loss was observed during hospitalization, compatible with the intense inflammatory and catabolic state. **Conclusion:** In critically ill patients with Ogilvie syndrome and prolonged intolerance to oral and enteral routes, total parenteral nutrition constitutes a fundamental strategy to ensure adequate energy and protein intake. Individualization of nutritional therapy, combined with continuous clinical, anthropometric, and laboratory monitoring, allows safe transition between feeding routes and contributes to favorable clinical outcomes.

RESUMO

Introdução: A síndrome de Ogilvie, caracteriza-se por dilatação colônica sem obstrução mecânica e está associada a elevada morbimortalidade em pacientes críticos. A dismotilidade intestinal prolongada compromete frequentemente a tolerância às vias oral e enteral, tornando a terapia nutricional um desafio relevante no manejo multiprofissional. Este trabalho relatou os desafios e as estratégias adotadas na terapia nutricional de um paciente crítico com síndrome de Ogilvie. Descrição do caso: Paciente do sexo masculino, com 63 anos, com múltiplas comorbidades, internado após cirurgia vascular de grande porte e passou a apresentar síndrome de Ogilvie. A intolerância persistente às vias oral e enteral, caracterizada por distensão abdominal, vômitos e débito gástrico elevado levou à manutenção de jejum prolongado e à instituição de nutrição parenteral total, com progressão gradual da oferta energético-proteica. Tentativas iniciais de reintrodução da via oral foram mal toleradas, exigindo manutenção temporária da nutrição parenteral. Após estabilização clínica, realizou-se transição gradual para dieta enteral semielementar em regime trófico, associada à progressão da via oral, com boa tolerância até a alta hospitalar. Observou-se perda ponderal significativa durante a internação, compatível com o intenso estado inflamatório e catabólico. Conclusão: Em pacientes críticos com síndrome de Ogilvie e intolerância prolongada às vias oral e enteral, a nutrição parenteral total constitui estratégia fundamental para garantir aporte energético e proteico adequado. A individualização da terapia nutricional, aliada à monitorização clínica, antropométrica e laboratorial contínua permite transição segura entre as vias de alimentação e contribui para evolução clínica favorável.

1. Nutricionista, Serviço de Nutrição Assistencial, Casa de Saúde Santa Marcelina Itaquera, São Paulo, SP, Brasil.

INTRODUCTION

Ogilvie syndrome, also referred to as acute colonic pseudo-obstruction (ACPO), is characterized by colonic dilatation, especially of the cecum and right colon, in the absence of mechanical obstruction[1]. It occurs predominantly in hospitalized, elderly patients with severe diseases and is associated with major surgeries, hydroelectrolytic disturbances, use of drugs that interfere with intestinal motility, and systemic inflammatory states[2].

The pathophysiology involves dysfunction of the autonomic innervation of the colon, with reduced parasympathetic stimulation and sympathetic predominance, resulting in progressive colonic dysmotility[3]. When not adequately treated, it may progress to ischemia, perforation, and sepsis, significantly increasing mortality[4].

From a nutritional standpoint, Ogilvie syndrome imposes relevant challenges, since prolonged intolerance to oral and enteral routes favors prolonged fasting, marked catabolism, and a high risk of malnutrition[5]. Despite this, there is a scarcity of specific data on the management of nutritional therapy in this condition, especially in critically ill patients.

Therefore, this report aims to describe the challenges and strategies adopted in the nutritional management of a critically ill patient with Ogilvie syndrome.

CASE DESCRIPTION

A 63-year-old male, retired construction worker, married, with completed elementary education and no private health insurance, presented with a history of heavy smoking (100 pack-years, ceased three years prior), social alcohol consumption, type 2 diabetes mellitus, and ischemic heart failure with a left ventricular ejection fraction of 46%. He was admitted to a tertiary hospital due to gluteal and lower-limb claudication and was diagnosed with bilateral aortoiliac occlusive disease, for which an aortobifemoral bypass graft was indicated.

On the first postoperative day following vascular surgery, the patient developed apnea, severe hypoxemia, unresponsiveness, and central and peripheral cyanosis, requiring emergency orotracheal intubation. Progressive improvement in oxygenation was observed, and consciousness was regained after approximately 10 minutes of mechanical ventilation. On the seventh day of hospitalization, a second vascular surgical procedure was required. On the following day, the patient experienced unplanned extubation and accidental removal of the nasoenteric tube, followed by marked abdominal distension.

Imaging studies revealed significant colonic dilatation associated with hemodynamic instability. On the tenth day of hospitalization, an emergency exploratory laparotomy was performed, including prophylactic appendectomy and colonic decompression, establishing the diagnosis of Ogilvie syndrome. Two days later, the patient developed signs of evisceration and underwent a new exploratory laparotomy with peritoneostomy and skin closure.

During hospitalization, additional surgical interventions were required, including a Hartmann sigmoidectomy with burial of the distal stump 2.0 cm from the promontory, abdominal cavity lavage, and drainage. These procedures were performed in the context of cecal dilatation up to 9.0 cm without ischemia, a redundant and angulated sigmoid colon, and associated dilatation of the stomach, jejunum, and ileum. Subsequently, the patient required further exploratory laparotomies with peritoneostomy and skin closure due to recurrent evisceration, as well as additional colonic decompression procedures, all without intraoperative complications.

From admission, the patient was followed by the clinical nutrition team. Nutritional screening using the Nutritional Risk Screening tool (NRS-2002) was performed within the first 24 hours, classifying the patient as high nutritional risk. At baseline assessment, the patient reported a body weight of 82 kg and a height of 1.67 m, corresponding to a body mass index (BMI) of 30.0 kg/m^2 (obesity). Mid-upper arm circumference was 31 cm. The patient denied prior unintentional weight loss or reduced appetite.

Due to persistent intolerance to oral feeding manifested by abdominal distension and vomiting, the patient remained on absolute fasting until the 11th day of hospitalization. At that time, total parenteral nutrition (TPN) using an SMOFKabiven® formulation was initiated and progressively advanced on a daily basis. On the fourth day of TPN, nutritional targets of 2,050 kcal/day (approximately 25 kcal/kg/day) and 94.5 g of protein/day were achieved (Table 1).

Attempts to advance oral intake with a clear liquid diet (water, tea, and gelatin) resulted in recurrent abdominal distension and vomiting, requiring reinsertion of a nasogastric tube with bilious drainage. Exclusive TPN was therefore maintained until the 18th day of hospitalization, with high and variable gastric output, reaching up to 1,863.64 mL/day.

TPN was gradually tapered (100% → 50% → 25% → discontinuation) with the introduction of a semi-elemental enteral formula (135 kcal, 16 g carbohydrates, 6.6 g protein, and 4.9 g lipids per 100 ml) administered via nasoenteric tube in trophic regimen (20 ml/h; 480 ml/day; 720 kcal/day) using continuous infusion, while maintaining a liquid oral diet. Over subsequent days, oral intake was progressively advanced to a regular consistency diet, allowing removal of the nasoenteric tube and exclusive oral feeding until hospital discharge.

Anthropometric follow-up demonstrated a progressive reduction in body weight and BMI (Table 2). Laboratory findings (Table 3) showed fluctuations consistent with critical illness, including persistently elevated C-reactive protein levels, reflecting intense systemic inflammation, and electrolyte disturbances,

particularly phosphorus and magnesium, which were closely monitored and corrected throughout nutritional therapy.

The patient remained hospitalized for 30 days, including 20 days in the intensive care unit. Due to clinical instability and multiple surgical interventions, absolute fasting was required for approximately 10 days. Exclusive parenteral nutrition was provided for seven days, followed by a mixed nutritional strategy combining parenteral, enteral, and oral routes.

DISCUSSION

Ogilvie syndrome represents a relevant clinical challenge in critically ill patients, especially when associated with multiple comorbidities and major surgical procedures[1,4]. The presented case illustrates the complexity of managing these patients, in whom severe intestinal dysmotility compromises not only clinical prognosis but also the feasibility of conventional nutritional strategies.

Table 1 – Nutritional calculation and progression of total parenteral nutrition using SMOFKabiven®.

Day	Infusion rate (ml/h)	Volume (ml/day)	Energy (kcal/day)	kcal/kg	Protein (g/day)
Admission	82.0	1.67	30.0	31	—
15th hospital day	76.6	1.67	27.5	31	36
Hospital discharge (30th day)	73.5	1.67	26.3	30	
06/07	77,65	1863,64	2050	25	94,5

Table 2 – Anthropometric evolution during hospitalization.

Assessment time point	Weight (kg)	Height (m)	BMI (kg/m²)	Mid-upper arm circumference (cm)	Calf circumference (cm)
Admission	82.0	1.67	30.0	31	—
15th hospital day	76.6	1.67	27.5	31	36
Hospital discharge (30th day)	73.5	1.67	26.3	30	35

BMI = body mass index.

Table 3 – Laboratory parameters during hospitalization.

Date	Urea (mg/dl)	Creatinine (mg/dl)	Sodium (mEq/l)	Potassium (mEq/l)	Phosphorus (mg/dl)	Magnesium (mg/dl)	PCR (mg/l)
27/06/2025	28	0,75	–	–	–	–	–
13/07/2025	–	–	–	–	–	–	–
14/07/2025	–	–	–	–	–	–	–
15/07/2025	–	–	–	–	–	–	–
16/07/2025	–	–	–	–	–	–	–
17/07/2025	–	–	–	–	3.30	2.00	–
18/07/2025	41	0.73	131	4.0	3.60	1.89	204.80
19/07/2025	41	0.68	131	4.3	3.60	2.01	192.00
20/07/2025	38	0.74	131	4.0	3.50	1.90	201.50
21/07/2025	39 / 42	0.68	136	4.5	3.30	1.87	205.90
23/07/2025	33	0.89	138	3.7	3.60	2.33	170.10

PCR - polimerase chain reaction.

Prolonged intolerance to oral and enteral routes imposed the need for the use of total parenteral nutrition as a fundamental strategy to ensure adequate energy and protein intake, as recommended by current guidelines for critically ill patients[6,7]. Although TPN is associated with potential risks, its judicious use, combined with rigorous monitoring, proved essential to prevent severe malnutrition in a context of intense metabolic stress.

Weight loss greater than 10% in a short period reflects the marked catabolic state typical of critically ill patients, associated with persistent systemic inflammation and prolonged fasting[8]. Recent evidence demonstrates that early loss of muscle mass during ICU stay is associated with worse clinical outcomes, longer hospital stay, and functional impairment after ischarge[9].

The strategy of gradual transition from parenteral nutrition to semi-elemental enteral diet in a trophic regimen, followed by progression to oral feeding, is aligned with recommendations that emphasize stimulation of the gastrointestinal tract whenever clinically possible[6,7]. This approach contributes to the preservation of intestinal mucosal integrity, reduction of complications associated with prolonged parenteral nutrition, and functional recovery of the digestive system.

Continuous nutritional follow-up, with serial anthropometric and laboratory reassessments, allowed individualized adjustments of therapy, minimizing metabolic risks and favoring clinical evolution. The case reinforces the need for nutritional therapy to be considered an integral and active part of multidisciplinary management in patients with Ogilvie syndrome.[9]

CONCLUSION

This case highlights the complexity of nutritional management in critically ill patients with Ogilvie syndrome and prolonged intolerance to oral and enteral feeding. Total parenteral nutrition proved to be an indispensable therapeutic tool, enabling adequate nutritional support during a highly catabolic and unstable clinical course. Individualized nutritional strategies, combined with continuous clinical, anthropometric, and laboratory monitoring, allowed safe transition between feeding routes and contributed to favorable clinical evolution. Given the scarcity of specific evidence on nutritional therapy in acute colonic pseudo-obstruction, this report reinforces the relevance of structured nutritional support as an integral component of multidisciplinary care in critically ill patients.

ETHICAL CONSIDERATIONS

The present study was approved by the Research Ethics Committee of the sponsoring institution under Consubstantiated Opinion No. 8003551, in accordance with National Health Council Resolution No. 466/2012. Written informed consent was obtained from the patient and/or legal guardian, authorizing participation in the study and the publication of clinical information, with anonymity guaranteed.

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Study location: Casa de Saúde Santa Marcelina Itaquera, São Paulo, SP, Brazil.

Conflict of interest: The author declares there are none.