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Case Report
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Infantile Acute Colonic Pseudo-Obstruction (Ogilvie's Syndrome) Following Use of Dicyclomine in Infantile Colic- A Case Report



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Abstract

Infantile colic is a common functional gastrointestinal disorder characterized by excessive crying in otherwise healthy infants, Infantile colic is a common, self-limiting condition. Pharmacological interventions, particularly anticholinergic agents, have historically been attempted and used but are associated with significant risks and not recommended due to safety concerns. We report a 6-week-old female infant who developed acute colonic pseudo-obstruction following administration of anticolic medication, dicyclomine, an atropine derivative prescribed for colic relief. Patient was successfully treated conservatively for a prolonged period and who subsequently developed congenital colorectal motility disorder on longer term follow up. This case underscores the dangers of anticholinergic therapy in infants and highlights the importance of non-pharmacological management strategies.

Keywords: Atropine Derivatives; Colonic Pseudo-Obstruction; Congenital Colorectal Motility Disorder; Dicyclomine; Gastrointestinal Functional Obstruction Disorder; Infantile Colic; Ogilvie's Syndrome

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Introduction

Infantile colic, defined by the Rome IV criteria as recurrent and prolonged episodes of crying in otherwise healthy infants under 5 months of age, affects up to 20–30% of infants. Although benign and self-limiting, colic often prompts parental distress and medical consultation. Pathophysiology is multifactorial: gut–brain axis immaturity, microbiota imbalance, and caregiver context [1-6]. Historically, anticholinergic medications such as dicyclomine and atropine derivatives were prescribed to reduce gastrointestinal spasms [7-10]. However, these agents are associated with severe adverse effects, including apnea, seizures, and gastrointestinal dysmotility. Colonic pseudo-obstruction (Ogilvie's syndrome) is rare in infants but can occur secondary to pharmacological suppression of enteric motility and represents a potentially life-threatening complication.

Case Report

A 6-week-old female infant, previously born at term and healthy, presented with persistent excessive crying diagnosed clinically as an infantile colic by the general practitioner. As the case was refractory from all previously recommended non pharmacological measures and the parents have tired of persistent severe refractory infantile colic, dicyclomine an anticolic atropine derivative was prescribed and administered orally for symptomatic relief.

Within 24 hours, the infant developed progressive massive abdominal distension, feeding intolerance, and absent stool passage with absolute constipation with unable to pass any flatus or stools. The patient was referred to us as a case of intestinal obstruction.

On examination, patient looked well with several peripheral abdominal distention. Laboratory: normal electrolytes, no infection markers. Abdominal ultrasound and color doppler studies showed acutely dilated right and transverse colon and left colon loaded with multiple fecalomas and

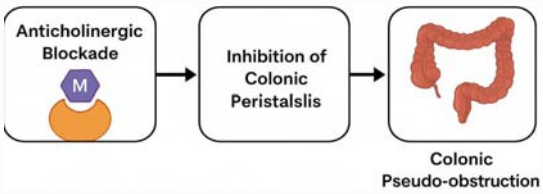


Figure 1: Mechanism of Anticholinergic-Induced Colonic Pseudo-Obstruction.
Schematic representation of the pathophysiological mechanism by which anticholinergic blockade leads to colonic pseudo-obstruction. Anticolic (an atropine derivative) inhibits muscarinic receptors, suppressing parasympathetic signaling and colonic peristalsis, resulting in functional obstruction and colonic dilation. Designed for grayscale compatibility and clarity. It visually illustrates how anticholinergic blockade disrupts colonic motility, progressing from normal parasympathetic signaling to receptor blockade and finally to colonic pseudo-obstruction.

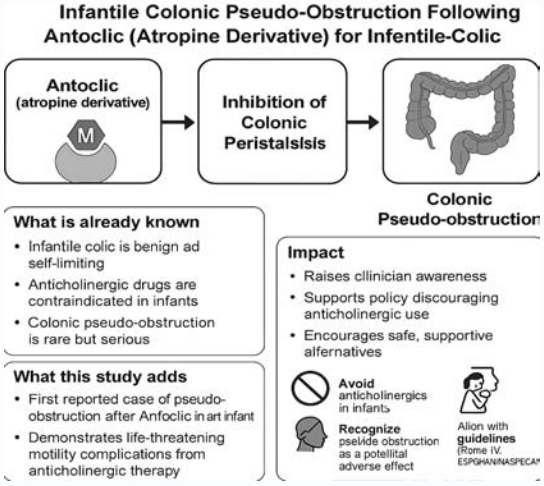


Figure 2: Graphical Abstract Summary.
One-page visual summary of the case report. Top panel illustrates the mechanism of pseudo-obstruction following anticolic use. Bottom left panel presents "What is already known" and "What this study adds." Bottom right panel highlights key learning points with icons: avoid anticholinergics, recognize pseudo-obstruction, promote non-pharmacological care, and align with guidelines. Designed for accessibility and public.

Agent / Derivative	Historical Use in Colic	Reported Adverse Effects in Infants	Current Guideline Position
Dicyclomine	Used to reduce intestinal spasms and crying episodes	Apnea, seizures, coma, death; contraindicated under 6 months	Contraindicated; not recommended (ESPGHAN/ NASPGHAN, Rome IV)
Atropine derivatives (e.g., Antoclic)	Prescribed for colic relief, antispasmodic effect	Colonic pseudo-obstruction, feeding intolerance, abdominal distension, risk of systemic toxicity	Not recommended; avoid use in infants
Hyoscyamine	Occasionally used for GI spasm relief	Irritability, feeding difficulty, apnea, CNS depression	Contraindicated in infants; not recommended
Other anticholinergics (e.g., scopolamine)	Rarely trialed for colic	CNS depression, respiratory compromise, dysmotility	Not recommended; safety concerns outweigh benefits

Table 1: Anticholinergic Agents in Infantile Colic: Adverse Effects and Guideline Positions.
Comparative summary of anticholinergic agents historically used for infantile colic, their reported adverse effects in infants, and current guideline positions. All listed anticholinergic agents are contraindicated in infants due to serious severe, sometimes life-threatening adverse effects and safety concerns. Table supports the case's clinical relevance and guideline alignment. **Key Point:** Current guidelines emphasize non-pharmacological management (parental reassurance, soothing techniques, microbiota modulation).

normal vascularity but no evidence of intussusception. Abdominal radiograph showed dilated colon with air-fluid levels with no mechanical obstruction.

Pediatric surgical consult confirmed functional pseudo-obstruction without any mechanical cause. Patient was resuscitated and supportive care with Immediate cessation of dicyclomine,

nasogastric decompression, nasal supplementary oxygen, intravenous fluids, parenteral nutrition, and regular twice daily 10 ml/kg normal saline rectal washouts to dissolve and decompress fecalomas initially with close monitoring in pediatric high dependency unit and subsequently in pediatric ward. Gradual recovery over prolonged period of four weeks with conservative management. Patient slowly recovered with full resolution of symptoms, normal feeding and stooling resumed.

Patient was discharged home after 35 days. Full resolution was observed with no recurrence at 3-month follow-up. At 3 months after discharge, patient developed chronic constipation which was treated conservatively according to NICE guidelines for 6 months but it remained refractory.

Patient underwent rectal suction biopsy at 9 months. Histopathological examination confirmed the presence of few ganglion cells with absent abundant nerve fibres and no excessive acetyl cholinesterase enzyme activity suggestive of hypoganglionosis. Patient responded well to conservative management with holobiotics, laxatives and broad spectrum nutritional supplements.

Long term follow-up at 13 years of age showed patient to be noncompliant with the regular conservative management and parents are exploring option of further staging work up and possible transanal endosurgical correction at present.

Discussion

Most infants with infantile colic recover without long term effects. This case illustrates a rare but serious complication of anticholinergic therapy in infants. In addition, it highlights the association of functional gastrointestinal obstruction with colorectal motility disorder as continuum of the spectrum. Both extremes of age groups, infants and elderly, are well known for unpredictive idiosyncratic effects of atropine and its derivatives and shul not be used routinely.

Infantile colic is a common, benign, and self-limiting condition in early infancy. Anticholinergic medications (e.g., dicyclomine, atropine derivatives) have historically been used for colic but are contraindicated due to serious adverse effects, including apnea, seizures, and gastrointestinal dysmotility. Colonic pseudo-obstruction (Ogilvie's syndrome) is rare in infants but can occur as a functional motility disorder.

The mechanism seems to be the anticholinergic blockade of muscarinic receptors inhibits colonic peristalsis, leading to functional obstruction Atropine is very potent antisecretory and antimotility drug while its derivative dicyclomine is more selective with predominant antimotility action frequently prescribed for irritable bowel syndrome patients in general practice. Dicyclomine and atropine derivatives have been associated with apnea, seizures, dysmotility and death in infants, leading to its contraindication under 6 months of age. Atropine derivatives share similar pharmacological risks.

Colonic pseudo-obstruction should be considered in infants presenting with acute distension after anticholinergic exposure. Current guidelines (ESPGHAN/NASPGHAN, Rome IV) recommend against pharmacological therapy for colic. Non-pharmacological approaches (parental reassurance, soothing techniques, probiotics such as Lactobacillus reuteri in breastfed infants) are safer and evidence-based.

Clinical Implications in our case is a reminder of iatrogenic preventable diseases. Colonic pseudo-obstruction should be considered in infants with acute distension following anticholinergic exposure. Reinforces the need for non-pharmacological management (parental reassurance, soothing techniques, probiotics such as Lactobacillus reuteri in breastfed infants). Limitations in our case include a single case, but adds to safety concerns regarding outdated pharmacological practices.

First reported case of infantile colonic pseudo-obstruction following administration of an anticolic medication (an atropine derivative) for colic relief. It provides clinical evidence that anticholinergic therapy can precipitate life-threatening gastrointestinal motility complications in infants. Our case reinforces guideline recommendations that pharmacological therapy should be avoided in infantile colic, with emphasis on safe, supportive, and non-pharmacological management strategies.

This case raises awareness among clinicians of pseudo-obstruction as a potential adverse effect of anticholinergic exposure in infants. It supports ongoing policy and guideline efforts to discourage pharmacological interventions for colic. Our case encourages further research into safe, evidence-based alternatives such as parental reassurance and microbiota modulation.

Our case is a usual reminder of the fact that how this study might affect research, practice or policy. It raises awareness among clinicians of pseudo-obstruction as a potential adverse effect of anticholinergic exposure in infants. It supports ongoing policy and guideline efforts to discourage pharmacological interventions for colic. In addition, it encourages further research into safe, evidence-based alternatives such as parental reassurance and microbiota modulation.

This report describes a rare but clinically significant adverse event in a 6-week-old infant who developed acute colonic pseudo-obstruction following administration of dicyclomine, an anticolic atropine derivative prescribed for colic relief. The case underscores the risks associated with outdated pharmacological approaches to infantile colic and reinforces current guideline recommendations advocating non-pharmacological management. We believe this case will be of interest to pediatricians, general practitioners, and policy-makers, as it highlights a preventable iatrogenic complication and supports evidence-based practice.

Conclusion

Anticolic (atropine derivative) use for infantile colic can precipitate life-threatening colonic pseudo-obstruction. Clinicians should avoid anticholinergic medications in infants and prioritize safe, supportive strategies. This case underscores the dangers of anticholinergic therapy in infants and highlights the importance of non-pharmacological management strategies. This case highlights the potential for serious adverse gastrointestinal motility complications from anticholinergic therapy in infants.

Key Take Home Learning Points

- Infantile colic is benign and self-limiting; pharmacological therapy is unnecessary.
- Anticholinergic agents can cause severe motility disorders in infants.
- Awareness of pseudo-obstruction as a potential adverse effect is critical.
- Evidence-based management emphasizes reassurance and

microbiota modulation.

Compliance Checklist

Patient and Public Involvement

- The patient's caregivers were involved in providing consent and clinical history.
- No direct patient/public involvement in study design, analysis, or manuscript preparation.
- The case is reported to raise awareness of adverse drug effects in infants.

Ethics Approval and Consent to Participate

- Ethics approval was not required for a single case report under institutional policy.
- Written informed consent was obtained from the infant's parents for publication.

Consent for Publication

- Parents provided written consent for publication of clinical details and anonymized images (if any).
- Identifying information has been removed to ensure confidentiality.

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- The authors declare no financial support from any organization for the submitted work.

Competing Interests

- The authors declare no competing interests.
- No financial or personal relationships influenced the preparation of this manuscript.

Data Availability Statement

- All data relevant to the case are included in the article.
- No additional datasets were generated or analyzed.

Provenance and Peer Review

- Not commissioned; externally peer reviewed.

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