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A CASE REPORT ON COLCHICINE INDUCED GASTROENTERITIS

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ABSTRACT

Colchicine-induced gastroenteritis is a clinically significant adverse reaction associated with colchicine therapy, commonly used for treating gout and familial Mediterranean fever. This condition is characterized by gastrointestinal symptoms such as nausea, vomiting, diarrhea, and abdominal pain, resulting from the drug's cytotoxic effects on the rapidly dividing cells of the gastrointestinal tract. The risk of developing gastroenteritis increases with higher colchicine doses, renal or hepatic impairment, and drug interactions. Prompt recognition and management involve discontinuing colchicine, providing supportive care, and addressing dehydration and electrolyte imbalances. Preventive measures include using the lowest effective dose, monitoring organ function, and educating patients on early toxicity signs. Despite its therapeutic benefits, the potential for colchicine-induced gastroenteritis underscores the need for careful patient management to minimize adverse effects.

KEYWORDS: Colchicine, Gastroenteritis, Adverse effects, Gout, Familial Mediterranean fever, Cytotoxicity, Gastrointestinal symptoms, Renal impairment, Hepatic impairment, Drug monitoring, Patient education.

INTRODUCTION

Colchicine is a widely used anti-inflammatory agent, primarily indicated for the treatment of gout and familial Mediterranean fever (FMF). It exerts its therapeutic effects by inhibiting microtubule polymerization, thereby reducing inflammatory responses.[1] Despite its efficacy, colchicine is associated with a range of adverse effects, among which gastrointestinal (GI)

disturbances are particularly notable. Colchicine-induced gastroenteritis, characterized by symptoms such as nausea, vomiting, diarrhoea, and abdominal pain, is a significant clinical concern due to its impact on patient quality of life and treatment adherence.[2]

The onset of GI symptoms typically occurs within the first 24 hours of colchicine administration and can vary from mild discomfort to severe, debilitating conditions. Despite its therapeutic benefits, colchicine has a narrow therapeutic index. This means that the difference between an effective dose and a toxic dose is small, making it easy for patients to experience adverse effects even with slight dosage variations. One of the most common and concerning adverse effects of colchicine is gastrointestinal toxicity, which can present as gastroenteritis.[3]

This introduction outlines the therapeutic uses of colchicine, the mechanisms underlying its gastrointestinal toxicity and a comprehensive understanding of these aspects is essential for optimizing the use of colchicine while minimizing its adverse effects.

CASE

A 76 years old male patient with known complaints of type 2 diabetes mellitus, systemic hypertension and gout came with complaints of a fever spike with temperature of 98°F, two episodes of vomiting and loose stools. Routine blood investigations were done which showed abnormal total counts (14000) with negative CRP (10.6) levels. He was taking Tab. Colchicine 0.5mg twice daily for gout and developed above mentioned complaints. The gastrointestinal symptoms were subside when the patient stops taking the medication and resume when the patient starts taking it again and the physician instruct to stop taking medication permanently. During the course of his hospital stay, he was treated with IV antibiotics, probiotics, gastroprotective and other supportive measures. As the patient was being symptomatically better, he was discharged.

DISCUSSION

The cytotoxic effects on the gastrointestinal epithelium are dose-dependent, making higher doses of colchicine a significant risk factor for the development of gastroenteritis.[4] Additionally, patients with renal or hepatic impairment are at increased risk due to decreased clearance of the drug, leading to higher systemic concentrations. Drug interactions, particularly with CYP3A4 inhibitors or P-glycoprotein inhibitors, can also elevate colchicine levels and exacerbate gastrointestinal toxicity.[5] Our case was similar to a study conducted by

Jeffrey S. Freeman *et.al* in which the patient experienced gastrointestinal symptoms after taking T.colchicine.[6]

Colchicine-induced gastroenteritis occurs due to increased peristaltic activity are common. Colchicine works by binding to tubulin, a protein essential for cell division, and disrupting the microtubule network in cells. This disruption affects various processes in the body, including inflammatory responses.[7] In the gastrointestinal tract, colchicine can lead to increased permeability of the intestinal mucosa, causing leakage of fluids and proteins into the intestinal lumen. This disruption can result in inflammation, irritation, and damage to the lining of the stomach and intestines, leading to the symptoms of gastroenteritis such as abdominal pain, vomiting, and diarrhea.[8] Despite its efficacy, the potential for colchicine-induced gastroenteritis presents a significant clinical challenge due to its narrow therapeutic index and the severe gastrointestinal side effects that can occur even at therapeutic doses.

CONCLUSION

Colchicine-induced gastroenteritis, although rare, is a significant adverse effect This condition is characterized by gastrointestinal symptoms such as nausea, vomiting, diarrhea, and abdominal pain, especially in patients with increased dosages. Clinically, colchicine-induced gastroenteritis presents a diagnostic challenge because its symptoms are nonspecific and can be mistaken for other gastrointestinal conditions. Early recognition and appropriate management are crucial to prevent severe complications. Treatment primarily involves discontinuing colchicine and providing supportive care, including rehydration and symptom management. In severe cases, hospitalization may be required for intensive monitoring and treatment. This case highlights the importance of thorough patient history and clinical evaluation in diagnosing and managing drug- induced gastrointestinal conditions.

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CONFLICTS OF INTEREST

The author would like to inform that there are no conflicts of interest regarding the publication of this case report.

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