

## Case report-Olgu sunumu

# Colchicine intoxication mimicking acute abdomen

## Akut batını taklit eden kolşisin zehirlenmesi

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### Abstract

Herein, we reported a 20-year-old woman who exhibited signs of colchicine-poisoning. In the first phase of intoxication physical examination findings were not moderate, they were mimicking acute abdomen. The clinicians were in dilemma to operate or not. But, on the fifth day after ingestion, her thrombocyte count decreased dramatically. Her clinical condition worsened, PaO<sub>2</sub> seriously decreased and she was intubated. After a long and vigorous intensive care treatment period, she recovered. But, if she had been operated, perhaps she would be exposed to dreadful complications. The crisis was managed with close monitorization of her clinical signs and laboratory values.

**Keywords:** Colchicine, abdomen, acute

### Özet

Burada kolşisin zehirlenmesi belirtileri gösteren 20 yaşında bir bayanı sunduk. Zehirlenmenin ilk evresinde fizik muayene bulguları orta derecede olmayıp akut batına benziyordu. Klinisyenler hastayı ameliyat edip etmeme konusunda ikilem içindeydiler. Fakat kolşisin alımından sonraki beşinci günde hastanın trombosit sayısı dramatik olarak düştü. Klinik durumu kötüleşti, PaO<sub>2</sub> ciddi şekilde azaldı ve hasta entübe edildi. Uzun ve zorlu bir yoğun bakım tedavi süreci sonrası hasta iyileşti. Ancak, eğer ameliyat edilseydi belki de kötü komplikasyonlarla karşılaşacaktı. Kriz hastanın klinik bulgularının ve laboratuvar değerlerinin yakından izlenmesiyle aşıldı.

**Anahtar sözcükler:** Kolşisin, karın, akut

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### Introduction

Colchicine is widely used for the treatment of various disorders, primarily for gout and familial Mediterranean fever. Its efficacy lies in its inhibition of inflammation, cell migration and in the action of specific cytokines, as well as of the production of lactic acid and deposition of uric acid in affected tissues. It also inhibits cell division, which explains its distinct toxicity stages [1]. Colchicine poisoning is a rare, but well-described clinical entity with four phases.

In this report, the clinical course of a girl, who consumed a high dose of oral colchicine in a suicide attempt and developed acute abdominal signs, is reported.

## Case report

A 20-year-old female patient was admitted to our emergency department following a suicide attempt. She had ingested 10 mg colchicine, two days ago. She was admitted to another hospital on the day of ingestion and refused gastric lavage and activated charcoal treatment and left hospital. On arrival, she had diffuse abdominal pain, diarrhea, and vomiting. She was alert and orientated, but had tachycardia with a blood pressure of 108/70 mm Hg. Her breathing was laboured and shallow with a respiratory rate of 34 breaths/minute. Physical examination revealed abdominal tenderness.

Pertinent laboratory data were Hb: 16.6 g/dL, WBC:  $42.9 \times 10^3$  / $\mu$ L, platelets:  $260 \times 10^3$  / $\mu$ L, urea: 16.2 mg/dL, creatinine: 1.1 mg/dL, Na: 136 mmol/L, K: 3.5 mmol/dL, aspartate amino transferase (AST): 213 U/L, alanin amino transferase (ALT): 37 U/L, gamma glutamyl transferase: 43 U/L, lactate dehydrogenase: 2137 U/L, creatine kinase (CK): 674 U/L, CK-MB: 72 U/L. Urine analysis was normal.

On the third admission day (five days after ingestion), she had severe abdominal pain. Findings on physical examination were compatible with 'acute abdomen' due to: distension of the abdomen, rigidity, direct and rebound tenderness and reduced peristaltic sounds. Abdominal ultrasonography (USG) and computed tomography (CT) revealed dilated edematous intestinal segments, noncompressable, edematous appendix, moderate free fluid in the abdomen and thorax. In the morning visit the surgeons intended to perform diagnostic laparoscopy and/or laparotomy, due to acute abdominal signs and started to observe the patient in a stand-by manner. But, her platelet count decreased to  $31 \times 10^3$  / $\mu$ L in the afternoon although it was  $64 \times 10^3$  / $\mu$ L in the morning. Her breathing also worsened through night. Arterial blood gas results showed a profound metabolic acidosis (pH 6.90, HCO<sub>3</sub><sup>-</sup> 9.7). Chest radiography showed bilateral patchy shadowing throughout both lung fields. Her clinical condition worsened, PaO<sub>2</sub> seriously decreased and she was intubated. Platelets were administered to correct her low platelet counts.

Three days later (8 days after ingestion), her laboratory values and clinical condition were better and she was extubated. But, on the 9th and 10th days, her blood Na and Cl levels gradually decreased to 105 mmol/L and 77 mmol/L, respectively, despite treatment. She also developed cardiac arrhythmia. Her consciousness and respiration deteriorated and she was intubated again. On the 14th day, her laboratory values and clinical condition returned to normal. On the 15th day, hair loss which led to transient total alopecia, developed. She was discharged on the 22th day.

## Discussion

Colchicine has been used extensively in the treatment of gout for centuries and also been recommended in preventing attacks of familial Mediterranean fever and in the treatment of primary biliary cirrhosis, amyloidosis, Behçet's syndrome, recurrent pericarditis, scleroderma and condyloma acuminata. Intracellularly, colchicine binds to the protein tubulin and prevents it from polymerizing to form microtubules, which are essential to such processes as protein assembly in the Golgi apparatus, endocytosis, exocytosis, mitosis, cellular motility, and the maintenance of cell shape [2]. By disrupting the microtubular network, colchicine is therefore toxic to all body cells, not just the rapidly dividing cells of the bone marrow or intestine.

There does not seem to be any clear cut separation between non-toxic, toxic or lethal doses of colchicine. Patients have survived ingestion of more than 60 mg, but conversely others have died after ingesting only 7 mg over a prolonged period [3]. Currently there is no specific treatment commercially available for the treatment of colchicine toxicity. Management of colchicine intoxication is mainly supportive and symptomatic. Gastric lavage within 1 h of exposure and activated charcoal are recommended [2]. A promising new aspect in the treatment of heavy colchicine overdose is the immunotherapy with colchicine-specific fab-fragments. At present this treatment is still in an experimental

stage and has been applied so far to one patient with beneficial effects [3].

The clinical manifestations of colchicine toxicity can be broadly divided into four stages, although there can be considerable overlap among them. The first is characterized by gastrointestinal symptoms such as nausea, vomiting, acute gastroenteritis with bloody diarrhea, abdominal distension, and abdominal pain. These hallmark symptoms of serious poisoning, typically occur within 4-8 h of a significant oral ingestion and are associated with large fluid losses. It is essential to correct fluid losses during the first stage of the illness. Leukocytosis is a frequent finding at this stage and may continue into stage two.

In this phase, physical findings of our patient were not moderate abdominal problems, they were mimicking acute abdomen. Radiologic investigations were also supporting the findings. The clinicians were in dilemma to operate or not. But in her close follow-up it was detected that her thrombocyte count was decreasing dramatically. Her clinical condition and respiration also worsened through night and she was intubated. If she had been operated with the findings of the morning, perhaps she would be exposed to dreadful complications. The crisis was managed with close monitorization of her clinical signs and laboratory values.

The second stage occurs between days 2 and 9 postpoisoning. Cardiorespiratory collapse and multi-organ failure are seen in this stage. Colchicine induces adult respiratory distress syndrome, direct myocardial toxicity, bone marrow suppression, consumptive coagulopathy, renal failure, hypocalcemia, central and peripheral nervous system toxicity, and rhabdomyolysis [4]. In this phase this case had very serious hyponatremia and cardiac arrhythmia. Her consciousness and respiration deteriorated and she was intubated again. Six days after vigorous treatment, she recovered.

The third stage is predominantly one of bone marrow suppression, beginning during stage two and continuing for 7 to 10 days. The fourth stage occurs from day 10 onward and characterized by a recovery of the bone marrow with rebound leucocytosis, resolution of organ system failure and development of transient alopecia [5, 6]. Hair loss usually recovers over a period of weeks to months.

In conclusion, patients with colchicine intoxication are susceptible to sudden clinical deteriorations. Especially surgeons should monitorize closely of the abdominal signs and laboratory values.

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