CASE REPORTS
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AZATHIOPRINE INDUCED SHOCK

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Abstract

Azathioprine (AZA), a purine analogue, is frequently used in dermatology. Dose related adverse effects due to AZA. We report a case of pemphigus foliaceous with associated ulcerative colitis who developed AZA induced shock.

Key words: Azathioprine, Shock

Introduction

Azathioprine (AZA), a purine analogue, is frequently used in dermatology as an immunosuppressive agent to treat autoimmune and inflammatory diseases. Frequently observed dose related adverse effects due to AZA are nausea, myelosupression, hepatotoxicity and increased susceptibility to infections. Therefore, periodic monitoring of complete blood count (CBC) and liver function tests is needed. A reported but rarely observed serious adverse effect is AZA induced shock. It is a hypersensitivity reaction to AZA. We report a case of pemphigus foliaceous with associated ulcerative colitis who developed AZA induced shock.

Case Report

A 50 year old male presented in OPD with widespread pemphigus foliaceous. He was also recently diagnosed with ulcerative colitis and was taking oral mesalazine, prednisolone (30 mg per day) and azathioprine for 7 days. He was admitted, after routine workup AZA and mesalazine was continued in same dose and intravenous dexamethasone was added at dose of 8 mg OD along with antibiotics and other supportive drugs. After 10 days of admission patient showed healing in lesions, thus mesalazine was stopped and patient was shifted to oral prednisolone 40mg/day. On 22nd day of admission patient complained of epigastric and chest pain and shortness of breath. He was referred to physician and ECG and chest X ray was advised along with routine investigations. ECG showed sinus tachycardia, chest X ray did not show any abnormality, his TLC was 11030/mm^3, total bilirubin was 1.3 mg/dL, SGOT 103, SGPT 93 and ALP was 225. He was advised an analgesic, blood and urine culture were sent and was kept under close monitoring. Next day he had a fall in blood pressure 80/66 mm Hg and his pulse was 130 and had increased breathlessness. He was oriented and afebrile but complained of attacks of syncope, chest pain and colicky pain in right hypochondrium. ECG again showed sinus tachycardia. Also, there was left pleural space effusion (100-150 ml approx.). On USG there were multiple right renal cysts. There was leukocytosis with neutrophillia, LFT were severely deranged with total bilirubin 4.1mg/dL, SGOT and SGPT 1165 and 902 U/L respectively. His serum amylase along with CPK-MB was also increased. He was diagnosed with cardiogenic shock along with sepsis. Patient was shifted to ICU and noradrenaline was started along with oxygen support and antibiotics. AZA and prednisolone was stopped and hydrocortisone 50 mg iv TDS was started to compensate HPA axis suppression. The patient responded to treatment and his blood counts decreased along with liver function parameters within next 10 days.

Discussion

The adverse effects of AZA have been subdivided into two types: allergic and non allergic. The non allergic adverse reactions are dose-dependent and are thought to be related to thiopurine metabolites and include myelosuppression and hepatotoxicity. The allergic-type reactions are rare, dose-independent and occur within weeks following the drug introduction. A broad spectrum of reactions can occur, ranging from pancreatitis, hepatitis, skin rash, fever, arthralgias, malaise, nausea, diarrhea and abdominal pain to the development of anaphylactic reactions [1, 2, 3]. The 6-mercaptopurine component has been suggested to be responsible for the induction of toxic side effects, while the imidazole component more likely underlies the hypersensitivity reaction [4]. Azathioprine induced shock due to hypersensitivity to the drug is a well known but a rare adverse effect [3, 5, 6]. It is characterized by an unpredictable clinical course with a potentially fatal outcome. The limitation in this case report was that a rechallenge with AZA could not done to confirm the causality; owing to life-threatening situation.

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