CASE REPORT

Recurrent mesalazine-induced myopericarditis in a patient with ulcerative colitis

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Accepted 23 December 2018

SUMMARY

Mesalazine is a common treatment for inflammatory bowel disease and can be rarely associated with myopericarditis. We report a case of a 19-year-old man recently diagnosed with ulcerative colitis and started on mesalazine, who presented with chest pain 2 weeks after beginning this therapy. Blood tests demonstrated elevated troponin I. ECG and echocardiographic changes were consistent with myopericarditis. When mesalazine was reintroduced 2 weeks after discharge, he suffered from myopericarditis again. On cessation of the drug, the cardiac symptoms resolved in combination with anti-inflammatory therapy. The onset of symptoms after mesalazine, and improvement of chest pain and cardiac biomarkers after discontinuing the drug, suggest that our patient suffered from a rare drug-hypersensitivity reaction to mesalazine.

BACKGROUND

Mesalazine (5-aminosalicylic acid; 5-ASA) containing products are a well-known treatment of newly diagnosed inflammatory bowel disease. Myopericarditis is recognised as a rare but potentially lethal adverse reaction of the early use of 5-ASA. Patients with any of these toxic effects may not be recognised as being associated with their treatment. Although rare, myopericarditis is recognised as a possible side effect of these medications.^{1 2} The mechanism for development of the inflammation is poorly understood.^{3–5}

Delays in recognition and treatment may be fatal because of the development of cardiogenic shock.⁶ Discontinuation of the 5-ASA product is usually sufficient to relieve the symptoms and to confirm the diagnosis of drug-induced inflammation.¹

CASE PRESENTATION

We report a case of a 19-year-old man with ulcerative colitis diagnosed 2 weeks ago on the basis of endoscopic and histopathological results, and placed on mesalazine 1500 mg two times a day. Two weeks after introduction of the therapy, the patient developed chest pain increased with inspiration and on lying in supine position, while it decreased significantly by leaning forward.

His physical examination did not show any relevant findings. Laboratory testing showed an elevated troponin I of 4.47 mg/dL (reference value: 0.056), C-reactive protein 4.74 mg/dL (reference value: 0.5) and white cell count $10.2 \times 10^9/L$. Serology for virus and interferon gamma release assay were negative. ECG showed ST elevations in the leads II, aVF, V5 and V6 (figure 1). Echocardiographic evaluation showed minimal pericardial effusion. Chest radiograph did not reveal any abnormalities.

A diagnosis of myopericarditis was settled based on the presence of the typical chest pain associated with an elevated troponin, ECG and echocardiographic changes.

The drug withdrawal in combination with anti-inflammatory therapy resulted in clinical improvement, resolution of the ST-segment elevation and decline in cardiac enzymes.

A presumptive diagnosis of idiopathic myopericarditis was assumed, and the patient was discharged with symptomatic therapy. The mesalazine was readministered after discharge.

At 2 weeks after mesalazine reintroduction, he felt chest pain again, troponin I (0.285 mg/dL) and acute phase reactants were elevated, and initial ECG and echocardiographic evaluation did not reveal any abnormalities. He was readmitted to our hospital and a recap of his medical history showed

Figure 1 ECG revealing ST elevations in the leads II, aVF, V5 and V6.

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To cite: Dias T, Santos A, Santos RM, et al. *BMJ Case Rep* 2019;**12**:e228037. doi:10.1136/bcr-2018-228037

that mesalazine was a drug potentially involved. Mesalazine was immediately stopped.

On cessation of the drug, in combination with anti-inflammatory therapy (ibuprofen and colchicine), the cardiac symptoms definitely resolved.

The patient began therapy with rectal budesonide and oral prednisolone, but the mesalazine withdrawal resulted in an exacerbation of the ulcerative colitis.

The patient was treated with azathioprine and infliximab without improvement of ulcerative colitis. Due to the unfavourable course, he began vedolizumab.

OUTCOME AND FOLLOW-UP

After 3 years of follow-up, the patient remains asymptomatic, with no recurrence of chest pain and in clinical remission of ulcerative colitis.

DISCUSSION

In our case, the patient was a 19-year-old man who had been treated with mesalazine for ulcerative colitis, and was diagnosed as acute myopericarditis 2 weeks after mesalazine intake. Subsequently, he developed recurrent myopericarditis after readministration of mesalazine.

The onset of symptoms after mesalazine, the improvement of chest pain and cardiac biomarkers after discontinuing the drug, and the relapse after re-exposure suggest that our patient suffered from a rare drug-hypersensitivity reaction to mesalazine.

Most of the reported cases describe cardiac involvement within 2–4 weeks of mesalazine initiation and resolution of symptoms following cessation of the drug.^{7 8} Our patient had findings consistent with this previously described temporal relationship.

Discontinuation alone usually results in rapid resolution of symptoms and no other treatment may be necessary. Many clinicians have used a short course of corticosteroids to reduce the inflammation and symptoms. However, it is not clear whether the corticosteroid treatment shortens the time to resolution of symptoms because the time course is comparable with that in reports of discontinuation only.¹

Although rare, this important side effect should be considered with 5-ASA therapy, and clinicians should be aware of the possibility.

Complications of myocarditis consist of tachyarrhythmias, heart block, left ventricular dysfunction, dilated cardiomyopathy and cardiac arrest. However, most patients make a full recovery.⁹

Non-5-ASA-containing therapies should be used for patients who have experienced this drug toxicity.¹

Topical and systemic steroids, thiopurines or infliximab should be prescribed to patients who are intolerant to topical 5-ASA. In case of treatment failure, second-line medical therapy with an

alternative anti-tumour necrosis factor (TNF), vedolizumab, or colectomy should be considered.¹⁰

Learning points

- ▶ Mesalazine is a common treatment for inflammatory bowel disease and can be rarely associated with myopericarditis.
- ▶ It is important to have a thorough medical history to distinguish the type of chest pain in order to make a correct diagnosis.
- ▶ Delays in recognition and treatment may be fatal.
- ▶ Most of the reported cases describe cardiac involvement within 2–4 weeks of mesalazine initiation.
- ▶ Discontinuation of the 5-aminosalicylic acid product is usually sufficient to relieve the symptoms and to confirm the diagnosis.

Contributors TD was responsible for data collection, literature review, writing of the manuscript and submitted the manuscript for publication. AS, RMS and AC provided critical revision of the article and final approval of the published version.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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