CASE REPORT

Chest pain in a 12-year-old girl with ulcerative colitis after therapy with mesalazine

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SUMMARY

This case of chest pain complicating therapy received for ulcerative colitis in a young patient highlights the importance of a thorough history and clinical examination. The complication can be rapidly fatal if not recognised and treated quickly.

BACKGROUND

Ulcerative colitis (UC) is a chronic inflammatory condition of unclear aetiology affecting the large bowel, most commonly the rectum and extending proximally in a continuous fashion.

Mesalazine/mesalamine/5-aminosalicylic acid is a drug used for treating UC. These drugs can be taken orally (tablets, capsules and granules). For patients whose colitis is limited to the distal part of the colon, these treatments may prove very effective when administered through rectum by inserting a suppository or enema.

Mesalazine may work by blocking the activity of cyclo-oxygenase and lipoxygenase, thereby reducing the production of prostaglandins. Reduced production of prostaglandins decreases inflammation in the colon and the symptoms associated with UC. Mesalazine also has side effects.

We present an unusual complication of mesalazine therapy in a young patient thereby highlighting appropriate tests for chest pain in children on mesalazine for inflammatory bowel disease.^{1 2}

CASE PRESENTATION

A 12-year-old girl previously known patient of UC on mesalazine tablets was reviewed urgently almost 4 months after her initial presentation for breathlessness, chest and shoulder pain. She also was febrile for a week and been coughing for 3–4 weeks prior to the review.

Observations demonstrated tachycardia with a heart rate of 200. Her systolic blood pressure (BP) was 60 mm Hg with an unrecordable diastolic BP. Her heart sounds were muffled and a pericardial rub was easily heard.

Chest x-ray revealed cardiomegaly (figure 1). Her ECG showed ST elevation. Troponin T level was 142 (normal <14; figure 2).

Echocardiogram revealed global effusion with signs of haemodynamic compromise—1.7 cm around right ventricle and 1.6 cm around right atrium and 0.8 cm posteriorly (figure 3). There was also a right atrial collapse.

Figure 1 Chest x-ray showing cardiomegaly.

TREATMENT

She was transferred to a paediatric intensive care unit (PICU) where she underwent pericardiocentesis. Pericardial fluid analysis showed few pus cells, no organisms and no growth on culture. Viral PCR was negative. Her symptoms improved and she was eventually discharged home after spending 5 days in PICU and a further 4 days in her local hospital on a reducing dose of prednisolone. Mesalazine was stopped.

OUTCOME AND FOLLOW-UP

She was reviewed at 2 and 4 weeks postdischarge; there were no breathlessness and chest pain. She was feeling well in herself and her energy levels had improved. She was started on azathioprine on her follow-up appointment.

Figure 2 ECG showing ST elevation and saddle backing.

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Figure 3 Echocardiogram showing global effusion.

DISCUSSION

The most commonly reported adverse events with the 5-ASA formulations include headache, skin rashes, urticaria and gastrointestinal symptoms such as diarrhoea, nausea, vomiting and abdominal pain. Other rare side effects include interstitial nephritis, hepatitis, pericarditis, pancreatitis, pneumonitis, dermatitis, myocarditis and haematological disturbances.³

Pericarditis in a child on mesalazine is a very rare occurrence but finds mention in a few case reports worldwide.^{4–6} Acute chest pain and breathlessness can be a feature of other conditions like pneumonia, pulmonary embolism as well as an extraintestinal manifestation of UC itself and arriving at an aetiological diagnosis can prove challenging.^{5–7} The incidence of acute chest pain in child on mesalazine should alert the clinician of the possibility of pericarditis.⁸

The ST elevation on ECG, raised troponin levels and echocardiogram findings in this particular case helped establish a diagnosis of pericarditis and pericardial effusion.

The association between the initiation of mesalazine therapy and the onset of chest pain followed by the disappearance of chest symptoms in the subsequent few weeks after stopping mesalazine suggests an adverse reaction to the drug.

Learning points

- ▶ This particular case demonstrated the importance of a thorough history, knowledge of adverse profiles of medications, focused investigation work-up and effective liaison with tertiary teams.
- ▶ A patient on mesalazine presenting with chest pain should be adequately investigated with pericardial effusion in mind and should have chest x-ray, ECG, echocardiogram, troponin and creatine kinase MB levels as standard investigations. Spiral CT chest scan may be needed to rule out pulmonary embolism.
- ▶ Tertiary centres and paediatric intensive care unit teams need to be involved early.

Contributors NM was involved with case report write-up and research, NP with inpatient care of the child and supervised write-up of case, BB in diagnosing and recognising the adverse event and KB with inpatient care and interpretation of cardiac investigations.

Competing interests None.

Patient consent Obtained.

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