Rifampicin – induced upper gastrointestinal bleeding

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Summary: Gastrointestinal disturbances like anorexia, nausea, vomiting, abdominal discomfort and diarrhoea are known adverse effects of rifampicin. We report an upper gastrointestinal bleeding due to haemorrhagic gastric erosions after ingestion of rifampicin for pulmonary tuberculosis. The cause and effect relationship between development of haemorrhagic gastric erosions and rifampicin administration was confirmed by rechallenge with rifampicin. To our knowledge no such adverse effect of rifampicin has been reported previously.

Introduction

Rifampicin is now established as a highly effective drug for the treatment of tuberculosis. Adverse reactions to rifampicin are infrequent, particularly if attention is paid to recommended dosage schedules, dosage intervals, associated disease and concurrent drug therapy.¹ When rifampicin is administered in usual doses, less than 4% of patients with tuberculosis develop untoward reactions. The most common of these are rash (0.8%), fever (0.5%) and gastrointestinal disturbances (1.5%).^{1,2} Other untoward reactions include thrombocytopenia and renal and hepatic abnormalities.^{3,4} However, gastrointestinal disturbances produced by rifampicin have occasionally necessitated discontinuation of the drug. We report an upper gastrointestinal bleeding due to haemorrhagic gastric erosions after ingestion of rifampicin for pulmonary tuberculosis. To our knowledge no such adverse effect of rifampicin has been previously recorded.

Case report

A 12 year old boy was admitted with 6-hour history of haematemesis and melaena. Eight days previously he was placed on isoniazid and rifampicin 10 mg/kg daily each for proved pulmonary tuberculosis. He had no gastrointestinal symptoms before the start of treatment, nor had he ingested any other drug including antipyretics and analgesics in the last 8 days. He had, however, felt

mild epigastric distress within 5 days of starting therapy. On examination he was pale, sweaty and dehydrated with a pulse of 110/min and blood pressure of 100/70 mmHg. Ryle's tube aspirate produced frank blood. Investigations showed haematocrit 24%; normal leucocyte count and platelet counts, bleeding time, prothrombin time, partial thromboplastin time and renal and liver function tests. Oesophagogastrroduodenoscopy showed multiple linear and punctate haemorrhagic erosions in the stomach suggestive of grade III erosive gastritis; the oesophagus and duodenum were normal. A diagnosis of haemorrhagic gastric erosions was made.

Antituberculous drugs were immediately stopped. He was given ranitidine, antacids and 2 units of blood transfusion and recovered over the ensuing 6 hours. Repeat endoscopy at 8 days was normal. As antituberculous drugs were essential in the management of pulmonary tuberculosis, a rechallenge was given after obtaining prior consent from the parents. Rifampicin 10 mg/kg (Cadila) was given for rechallenge. The patient developed epigastric pain and vomiting on the 5th day. Endoscopy showed multiple linear and punctate erosions in the stomach, without any visible blood. At this point rifampicin was stopped. Subsequently, the patient has received 11 months of treatment with ethambutol and isoniazid without any adverse effects.

Discussion

Erosive gastritis or gastrointestinal bleeding as an adverse effect of rifampicin is mentioned neither by the manufacturer nor in standard textbooks.^{5,6} The temporal relationship of haemorrhagic gastritis to rifampicin administration, its disappearance when

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the drug was discontinued and the reproduction of mucosal lesions upon readministration confirms the cause and effect relationship.

We have no satisfactory explanation for the rifampicin-induced erosive gastritis that resulted in bleeding in our patient but we believe rifampicin may exert a local effect on the gastric mucosal

barrier similar to that produced by non-steroidal anti-inflammatory agents.^{7,8} In view of the present report and the occurrence of gastric disturbances in rifampicin treated patients, we feel it would be worthwhile to undertake endoscopic studies to evaluate the effects of rifampicin on gastric mucosa.

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