Case Report

Etoricoxib- induced pleural effusion: A case for rational use of analgesics

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ABSTRACT

Pleural effusion caused by drug is an uncommon event in clinical practice. Etoricoxib induced pleural effusion is an extremely rare. We describe a patient with pleural effusion as an adverse drug reaction of etoricoxib.

Key words: Adverse drug reaction, etoricoxib, pleural effusion

INTRODUCTION

Drug-induced pleural effusion is uncommon and less known to clinicians.[1] The pathophysiology of this reaction is not clear. It may due to fluid retention, dose-dependent toxic effect, chemical inflammation or oxidative stress of mesothelial cells.[2] Among the commonly used drugs, angiotensin-converting enzyme inhibitors, nitrofurantoin and bromocriptine are well known to cause pleural effusion. If the offending drug could be identified and withdrawn, the prognosis of the drug-induced pleural effusion was reported to be good.

CASE REPORT

A 58-year-old accountant presented with abdominal distension and exertional tiredness (NYHA class II) of 1 week duration. He is a known patient with diabetes mellitus and hypertension for 4 years duration with well-controlled blood sugar and blood pressure throughout. He was on metformin, losartan and atorvastatin. He had a history of mechanical back pain 2 weeks back and was treated with etoricoxib 60 mg daily and omeprazole 20 mg twice daily for 2 weeks.

Examination revealed bilateral lower zone pleural effusion and bilateral fine crackles above the effusion. All other physical examinations were unremarkable. Full blood count was normal including the eosinophil counts. His renal functions and liver functions were also normal. Chest X-ray showed bilateral pleural effusion. His ESR and CRP were normal, tuberculin test was negative and serum amylase was normal. His retroviral studies were negative. Ultrasound scan confirmed the clinical finding of bilateral pleural effusion and mild free fluid in the abdomen. Plain X-ray spine did not show any abnormality. The ECG and 2D-echocardiogram were normal. Pleural fluid analysis revealed an exudative type of pleural effusion, without any abnormal cytology.

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As most of the common causes of pleural effusion had been excluded by history, examination and investigations, iatrogenic cause was suspected. Since etoricoxib is known to cause pleural effusion, a trial of dechallenge was carried out. Etoricoxib was discontinued and the patient was reviewed in 1 week time. He was asymptomatic, and no evidence of pleural effusion on examination, chest X-ray and ultrasonically.

DISCUSSION

Etoricoxib-induced pleural effusion is uncommon. The Food and Drug Administration (FDA) has documented 13 cases of pleural effusion associated with etoricoxib between October 2012 and January 2004.

Symptoms may occur acutely after the first dose or may appear later though latent time of weeks to month is the rule as in any other drug-related pleural disease.[3] Resolution of pleural effusion after drug withdrawal and reoccurrence after drug re-administration are fundamental importance in establishing certain causality, but re-challenging the patient with the suspected drug is ethically unacceptable in most instances as in this instance. Naranjo adverse drug probability scale is a useful tool applied by many researchers in assessing the causality of an adverse event in clinical settings.[3] The score in this case was 8, pointing to the causality scale of probable. Inability to perform re-challenge and clinical settings in contrast to a clinical trial settings are the major reasons for getting a probable scale instead of a certain scale.

A detail drug history including temporal association between drug exposure and symptoms should alert the treating physician on the possibility of drug-related process. Pleural fluid eosinophilia may strengthen the evidence. Eosinophilic pleural effusion is usually seen with drugs like nitrofurantoin, dantrolene, bromocriptine, valproic acid, isotretionin, prophythiouracil and angiotensin-converting enzyme inhibitors. Pleural effusion usually settles with withdrawal of drug and very rarely therapeutic aspiration needed to relieve the symptoms.

We recommend if the cause of an exudative pleural effusion is not identified after basic investigation, drug withdrawal can be considered if clinically appropriate. Also, when prescribing non-steroidal anti-inflammatory drugs, concentrating only on gastric side effects should be discouraged. It avoids extensive diagnostic evaluation which may cause discomfort to the patient and unnecessary expenditure. Usual cause for back pain in general population is mechanical type and warrants simple analgesic like paracetamol rather than unfamiliar newer agents like etoricoxib as a first-line agent. In summary, this is an iatrogenic disease which could have been avoided if the analgesic had been selected rationally.

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Conflicts of interest

There are no conflicts of interest.

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