A Case of Nimesulide toxicity in an Indian Child

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A 6-year old male child presented with fever for 4 days and he had received nimesulide (without prescription) for 4 days before coming to doctor. On examination, the patient was found to have jaundice and haematuria. The laboratory investigations indicated that the most probable cause for jaundice & haematuria was Nimesulide, since serological test were negative. This is the first case report from India of concomitant hepatic and renal toxicity in a child.

INTRODUCTION

Nimesulide is a preferential cyclooxygenase-2 (COX-2) inhibitor. It is preferable over other NSAIDs, as it causes fewer gastrointestinal side effects.[1,2] Nimesulide may cause a wide spectrum of liver injury from asymptomatic increase in liver enzymes to jaundice and rarely leads death due to liver failure.[3-11]Children receiving Nimesulide are more prone to hepatotoxicity.[12] Nimuslide induced renal toxicity can be either due to severity of the liver disease or may be due to NSAID-induced interference with vasodilatory prostaglandins causing unopposed renal arteriolar constriction. This can cause increase in the creatinine, blood urea nitrogen (BUN), presence of RBCs, albumin and bile salt in urine.[13]

Due to its known adverse effect profile, Nimesulide has been banned for paediatric use below age of 12 by the DCG(I).[14] We report a case of Nimesulide toxicity due to administration of Nimesulide without prescription. It is also suggested that Nimesulide may be associated with jaundice and haematuria even in therapeutic doses.

CASE REPORT

A 6-year old male child presented with fever for 4 days for which he had received nimesulide (without prescription) for 4 days before coming to doctor. On examination, patient was found to have jaundice and haematuria.Laboratory studies of the child were as follows:

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LFT on the dayof presentation revealed Bilirubin total-8.8mg/dl & bilirubin direct-5.2 mg/dl. SGOT, SGPT and Alkaline phosphate were 587IU, 1245IU and 2932IU, respectively. Liver function test after 9thday from withdrawal of Nimesulide showed Bilirubin total-1.34 mg/dl &bilirubin direct-0.81 mg/dl.SGOT, SGPT and Alkaline phosphate were 98.48IU, 189.6IU and 1603IU, respectively. These parameters of Liver function showed significant improvement after withdrawing Nimesulide.

Complete blood count revealed Hb-11.2 g/dl, TLC-9300 µl, PCV-34%, RBC count-4.2mn/mm^3 MCH-26.67 pg, MCV-80.95 fl,MCHC-32.94 %, platelets-261 10^3/µl, Bleeding time&clotting time (BTCT) were normal (Bleeding time-3'36"minute, clotting time-6'13"minute), while Prothrombin time Index: PTI control-12 sec, PTI test-13 sec, PTI-92% was also within the normal limits.

On first day, the urine was dark yellow in colour and albumin, bile salts and bile pigments were also detected. Microscopy revealed the presence of pus cells 2-3/HPF, RBCs-40 to 50/HPF. A repeat examination of urine, at a different pathological laboratory confirmed this profile on day 2 of presentation. Urine culture was found to be sterile after 24 hrs of aerobic incubation. Repeating these tests on 9thday of nimesulide withdrawal revealed a normal urine sample.

Serological test done for ruling out hepatitis A, B, C and E viruses and were reported to be negative. This eliminated the other common causes of hepatitis.

The paediatrician stopped the use of Nimesulide and managed the child conservatively on out patient basis. The child improved subsequently without any specific intervention.

DISCUSSION

Nimesulide was found to be the most likely etiological agent of jaundice and haematuria in this patient. This finding was also supported by the fact that other diseases like viral hepatitis and other infections were absent (confirmed by negative results for serological and culture test). Patient's LFTs and urine findings returned to normal after withdrawal of drugwithout any specific treatment. Also the platelet counts and coagulation profile was normal.Therefore, haematuria in the patient is very likely the result of Nimesulide induced renal toxicity. This is the first case report from India of Nimesulide-induced concomitant hepatic and renal toxicity in a child, though similar case reports have appeared globally.[13]

This case further supports the previous reports published regarding hepatotoxicity and haematuria as significant side effects of Nimesulide.[4,6,13]Nimesulide has been reported to cause hepatotoxicity and nephrotoxicity, it should be used vigilantly even in adults. Patients, especially geriatrics, who are more susceptible to hepatotoxicity and nephrotoxicity must be very much cautious in using Nimesulide and the authors recommend that they should be monitored for liver & renal function.

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