



RESEARCH ARTICLE

BIO CHEMISTRY

A CASE STUDY ON DRUG INDUCED HEPATOMEGALY ASSOCIATED WITH DENGUE INFECTION**SATHISHA .T.G¹, PAVITHRA. V², KASTURI K², SAMBASIVA RAO KRS², MANJUNATHA GOUD B.K^{3*}, BHAVNA NAYAL⁴.**¹Department of Biochemistry, Kasturba Medical College, Manipal, India.²Department of Biotechnology, ANU, Guntur, India.³Department of Biochemistry, Melaka Manipal Medical College, Manipal, India.⁴Department of Pathology, Melaka Manipal Medical College, Manipal, India.**MANJUNATHA GOUD B.K.**Department of Biochemistry, Melaka Manipal Medical College, Manipal,
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ABSTRACT

Dengue is a viral fever characterized by rashes and renal complication. Nimesulide is an analgesic and antipyretic drug. This case is an unusual combination of dengue and drug induced damage of liver in a 6 month old female baby with a history of flu like symptoms with chills, rigors and drowsiness. She was administered a syrup of two drugs namely nimesulide and paracetamol. Serology of dengue confirmed primary infection. All the symptoms and signs returned to normal after termination of the nimesulide and supportive treatment. This case differs from the other cases based on the time of onset and indicates that nimesulide may induce hepatomegaly in the first few days of administration. Hence, patients receiving nimesulide should be regularly monitored with serial serum transaminases beginning from the first week of intake or the prescription of nimesulide should be banned all over the world.



KEY WORDS

Dengue, nimesulide, drug induced hepatotoxicity.

INTRODUCTION

Nimesulide is COX-2 selective non-steroidal anti-inflammatory drug (NSAID) with analgesic and antipyretic properties, used because of less gastrointestinal side effects compared to other non-selective NSAIDs absorbed rapidly and completely after administration². There may be mild increase in serum transaminases, though only a few cases with fatal liver failure due to nimesulide had been reported²⁻⁷. Due to the risk of hepatotoxicity it has been withdrawn from market in many countries Nimesulide is not marketed in United States and has never been filed for FDA evaluation. This case presents a patient with moderate hepatomegaly due to nimesulide within few days of intake and associated dengue.

CASE PRESENTATION:

A 6 month old female baby weighing about 6.5kg, with a history of flu like symptoms with chills and rigors since a week and drowsiness for the past 2 days was brought to hospital. She was administered a syrup of 2 drugs namely nimesulide -50mg/5ml, and paracetamol -125mg/5ml, twice a day for 4 days. Laboratory investigations on admission revealed low level of haemoglobin 9.3g/dl and platelets profoundly decreased to 22,000/cumm from normal level of 1.5-4.5 lakh/cumm. Peripheral smear examination showed normocytic hypochromic cells, WBC showed neutrophilic predominance. Platelets were decreased markedly and arranged discretely, no hemoparasites or abnormal cells were observed. Liver function test showed severe increase in Serum Glutamate Oxaloacetate Transaminase [SGOT] or aspartate transaminase from 37IU/L to 26,600IU/L, Serum Glutamate Pyruvate Transaminase [SGPT] or alanine transaminase from 42 IU/L to 917IU/L, Alkaline phosphatase [ALP] from 660IU/L to 2000IU/L

indicating damage of liver cells. At the same time undisturbed bilirubin levels, total bilirubin- 0.6mg/dl, direct bilirubin – 0.2mg/dl, indirect bilirubin – 0.4mg/dl with astronomical increment in enzyme level indicated presence of inducible agents namely nimesulide confirming patent liver tracts. Abdominal ultrasonographic examination revealed moderate hepatomegaly with normal spleen. ELISA estimation of dengue IgG showed negative index value and IgM showed positive index value confirming recent infection with dengue virus. All of the clinical and laboratory findings were compatible with moderate hepatomegaly. Injection monocef, and drops zincovit were administered. On the 6th day of admission laboratory investigations revealed improved status of baby. She was discharged on the same day and called for follow up after a week.

DISCUSSION

There are many reports which shows slight elevations of liver enzymes^{3,4,9}. Acute hepatomegaly and even fatal hepatomegaly due to use of nimesulide⁵⁻⁸. This patient was brought to hospital with flu like symptoms, drowsiness and was administered with nimesulide and paracetamol syrup for 4 days. The clinical and laboratory findings revealed moderate hepatomegaly. After nimesulide was terminated and started with supportive treatment, patient's clinical condition and laboratory values dramatically improved. This improvement makes to believe that nimesulide must be the cause of hepatomegaly. This case differs from other reports of drug induced hepatotoxicity in regard to onset of the toxicity; it is four days in this case. The mechanism of nimesulide induced hepatomegaly is unknown. Some



hereditary causes lead to different metabolites. They cause toxic consequences¹⁰. In this case development of drug induced hepatomegaly within 4 days of intake of nimesulide suggests a direct toxicity.

CONCLUSION

Drug induced hepatotoxicity due to use of nimesulide is not the frequent problem, but

prescription of this drugs should be banned at least for children , if at all it is prescribed the patient's serum transaminases should be monitored from the first week of intake. Government of India should not wait for committee report instead ban the use of nimesulide at least for the treatment of pain and fever and stop innocent patients from suffering.

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