

## Case Report

# Reported Case of Paracetamol and Non-Steroidal Anti-Inflammatory Drug (NSAID)-Induced Seizures in a Patient with HIV Infection

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### Abstract

Commonly available analgesics, such as paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs), are used widely with few or no adverse events by most individuals. However, some adverse events have been observed following the use of these drugs. This paper reports a case of paracetamol and NSAID-induced seizures in a patient with the human immunodeficiency virus infection/acquired immune deficiency syndrome (HIV/AIDS). These seizures occurred at different times, first with paracetamol and then diclofenac (a NSAID). She was concurrently on anti-retroviral drugs and antibiotics. We were unable to readily explain this unusual adverse event as most documented paracetamol-related adverse events are either immunoglobulin E (IgE)-mediated or due to direct paracetamol-induced hepatic necrosis following an overdose. This case is a probable drug-drug interaction not supported by existing literature, and it is possible that the background HIV infection may have a role to play.

**Keywords:** Paracetamol, Diclofenac, Adverse events, Seizures, HIV/AIDS.

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## INTRODUCTION

Paracetamol and other analgesics such as non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used medications that are also readily available over-the-counter (OTC). While the medications have analgesic properties, paracetamol unlike NSAIDs lack anti-inflammatory properties. Allergic reactions to paracetamol have been widely reported and studied in various parts of the world [1-4]. Some of the reported reactions range from urticaria and angioedema to severe skin eruptions like toxic epidermal necrolysis. Other reported reactions to paracetamol include rhinitis, conjunctivitis, abdominal pain and bronchospasm [1,5]. Some

of these reactions are thought to be immunoglobulin E (IgE)-mediated [1].

In Nigeria, fixed drug eruption following use of paracetamol and a NSAID (naproxen) have been reported [6] but to the best of our knowledge, no case of seizure has been reported. In this report a case of paracetamol and NSAID-induced seizures in a patient with HIV infection after obtaining informed consent from the patient has been presented.

### Case report

Mrs O. is a 42 year old lady diagnosed in 2010 with HIV infection but she declined taking anti-retroviral therapy (ART) until December 2012

when she reported to the hospital with a febrile illness, cough and weight loss. She was given oral paracetamol (1000 mg) on account of fever. Twenty (20) minutes later, she started sweating profusely and soon developed generalized jerky movements of the body suggestive of a tonic-clonic seizure which lasted about 6 min. She subsequently became weak and fell asleep. There was no rash, vomiting or loss of sphincteric control. She had used paracetamol several times in the past prior to being diagnosed with HIV infection without any observed adverse effects. She had had no previous reactions to medications especially ARTs (zidovudine and nevirapine) and co-trimoxazole. She was discharged after a few days when no other suspected adverse reaction was observed. She was not placed on anti-seizure drugs.

In March 2013 she was admitted on account of fever, cough, dyspnoea, weight loss and leg swelling. Clinically she had right pleural effusion. She was prescribed intravenous ceftriaxone and metronidazole as well as given intramuscular paracetamol 600 mg (of a different brand) about two hours prior to administration of the antibiotics, on account of high fever. About 20 min later, she developed similar symptoms to the one stated above, i.e., sweating profusely and development of generalized jerky movement of the body, suggestive of a tonic-clonic seizure which was aborted with injection diazepam. She subsequently fell asleep.

We then decided to control fever with a NSAID (diclofenac). Following administration of oral diclofenac, she developed very similar symptoms to the reaction to paracetamol. She had no history of childhood seizures. There were no signs of meningeal irritation, confusion or focal motor weakness. She was not jaundiced, and liver and kidney functions were normal. Fever was subsequently managed by exposure of her body and tepid sponging. She continued the use of ARTs and antibiotics without developing any reactions.

## DISCUSSION

Reactions to paracetamol and NSAIDs individually or their combined therapy are experienced rarely in clinical practice but awareness of their potential adverse event is becoming common knowledge. In our patient, we did not observe any of such reported reactions as rashes, skin eruption or bronchospasm [1-5]. Our patient experienced profuse night sweats followed by generalized jerky movements of the body similar to a tonic-clonic seizure. We were unable to explain this reaction as she did not

have other risks for seizures and paracetamol interaction with other medications including the antiretroviral drugs she was taking was unlikely [7,8]. She tolerated other medications very well. It is also worthy of note that the first reaction occurred following oral paracetamol while the second reaction occurred following use of a different brand of parenteral paracetamol despite having used paracetamol in the past without a reaction prior to the diagnosis of HIV. Following this reaction we had opted to use a NSAID (diclofenac) to control the fever she was experiencing but a similar reaction was observed.

While many individuals who show allergic reactions to paracetamol may tolerate NSAIDs, it is not unusual for some patients to show allergies to both paracetamol and NSAIDs [1,2,4]. The immediate reaction to paracetamol and diclofenac in our patient may suggest that this may be IgE-mediated but our patient did not exhibit the classic features of paracetamol IgE-mediated reaction [1]. It is possible that other mechanisms may be involved in the reaction of this patient. HIV-infected individuals have a higher risk of developing adverse drug events and it is thought that the disease process may play a role in the development of this reaction in our patient.

## CONCLUSION

This case was a challenge that required the dispatch of a report of the case to the National Pharmacovigilance Unit of National Agency for Foods and Drug Administration and Control (NAFDAC) in Nigeria. Observed reactions to paracetamol and NSAIDs are rare but our patient did not experience any of such reported events. The observed reaction may suggest another mechanism, other than IgE-mediated, which may be related to the presence of HIV infection.

## CONFLICT OF INTEREST

The authors declare no conflict of interest in this case

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