

# A CASE OF HIV WITH MULTIPLE RELATED INFECTIONS – BALANCING TREATMENTS, DRUG INTERACTIONS AND SIDE-EFFECTS

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## **Background/Purpose:**

This case describes the complex management of a patient with advanced HIV, hepatitis B co-infection, disseminated tuberculosis, toxoplasmosis and immune reconstitution inflammatory syndrome (IRIS).

## **Approach:**

A 55-year-old male, known to be a slow-progressor with hepatitis B co-infection, represented to our service with syncope, fevers and weight loss. His CD4 count was  $5 \times 10^6/L$  with a viral load of 79,433 copies/ml. He had clinical and radiological evidence of widespread lymphadenopathy and lymph node biopsy results confirmed disseminated *Mycobacterium tuberculosis*. There was also concern for TB pericarditis and retinitis. He commenced treatment with rifampicin, isoniazid, pyrazinamide, ethambutol and pyridoxine. Co-trimoxazole was initially avoided due to suspected G6PD deficiency and he received a pentamidine nebuliser for PJP prophylaxis. Three weeks later, he commenced tenofovir disoproxil, emtricitabine and dolutegravir for HIV and hepatitis B co-infection, and prednisolone 1mg/kg. After initial improvement, at 4 weeks he presented with fevers, confusion and liver derangement. MRI imaging of his brain revealed several new ring-enhancing lesions with central necrosis and surrounding vasogenic oedema, consistent with a diagnosis of toxoplasmosis and unmasking IRIS. In addition, worsening hepatotoxicity with a high hepatitis B viral load raised the suspicion of IRIS-hepatitis B. Medication side-effects, drug interactions and the interplay between co-infections complicated further medical management of this patient.

## **Outcomes/Impact:**

Although the patient demonstrated clinical and radiological improvement, biochemical and haematological markers demonstrated hepatotoxicity and bone marrow suppression. Medication side-effects, IRIS and co-infections were thought to be contributory. The patient required frequent review and multiple medication alterations throughout ongoing treatment.

## **Innovation and Significance:**

Management of patients with HIV and multiple co-infections remains difficult with monitoring for potential drug interactions and medication side-effects being an integral component of patient care. The case serves as a reminder of the often complicated course of illness that occurred in patients prior to the current era of early antiretroviral therapy for HIV.

## **Disclosure of Interest Statement:**

No pharmaceutical grants were received in the development of this study.