

Cefepime Induced Neurotoxicity in An Orthopaedic Setting

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INTRODUCTION:

Cefepime is a 4th-generation cephalosporin, within Beta-Lactam classes of antibiotics. Neurotoxicity is a recognized life-threatening side effect of Cefepime⁽¹⁾, first reported in 1999⁽²⁾, as it crosses the blood brain barrier⁽¹⁾.

The case report illustrates the onset of Cefepime induced neurotoxicity(CIN) and gradual resolution.

REPORT:

A 55-year-old lady with underlying Diabetes and Hypertension with no known allergies was diagnosed with Prolapse Intervertebral Disc over L4-L5, L5-S1. She underwent, Posterior Instrumentation over L4-S1, with Decompression and right laminectomy over L4-L5.

Her condition was further complicated with surgical site infection.

She got admitted on March 2021 and was started on parenteral Cefepime, where on Day 9, patient developed lethargy, tremors and speech differences.

Subsequently, on Day 10 and Day 11 patient exhibited myoclonus movements around the neck region and bilateral upper limbs and deterioration of her Glasgow Coma Scale(GCS). A non-contrast CT brain and MRI Brain was done to exclude other probable causes, both had no significant pathology.

A multidisciplinary discussion with the clinical pharmacist and medical team, lead to withholding of parenteral Cefepime due to exhibiting neurotoxicity features. During this admission patient showed reduction in renal function based on estimated glomerular filtration rate, where there was reduction in renal clearance of Cefepime which can lead to increase in serum Cefepime. After 48H of stopping the drug, patient regained full

consciousness with no documented tremors or speech disturbances and concomitantly showed improved renal function.

During follow-ups patient had no residual signs and symptoms.

CONCLUSION:

Neurotoxicity is severe but reversible side effect of Cefepime. Dose adjustment is recommended in patients with renal insufficiency to reduce the risk of neurotoxicity⁽³⁾. Mainstay treatment is to withhold offending antibiotics.

REFERENCES:

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