Stimulus-induced Rhythmic, Periodic, or Ictal Discharges (SIRPDs) associated with seizures in cefepime neurotoxicity

Descargas ictais, periódicas ou rítmicas induzidas por estímulos (SIRPIDs) associadas a crises epilépticas na neurotoxicidade por cefepime

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Cefepime was started for a patient with urinary tract infection and renal failure. The next day, she started confusion and seizures. EEG recorded Stimulus-induced Rhythmic, Periodic, or Ictal Discharges (SIRPDs) associated with seizures (Figure). Cefepime was discontinued. Subsequent EEG demonstrated only slowed background (SB).

Figure. Initial EEG. Prior to stimulation, slowing of background (A). After sternal rub, bilateral triphasic waves (repeated every 0.5 s) prominent in the fronto-central regions of the two hemispheres, left and median predominated (B). This activity was associated with jerks affecting right upper limb.
The EEG in cefepime neurotoxicity (CN) is considered non-reactive to stimulation, and characterized for SB associated or not with periodic discharges, including triphasic waves (TWs). Discordantly, we describe SIRPIDS in CN\textsuperscript{1,2}.

Our report and the recent description of repeated TWs as ictal pattern\textsuperscript{3,4} demonstrate that at least some discharges in CN are epileptic related.

Alerting stimuli activate the arousal circuitry, and, when combined with hyperexcitable cortex, result in SIRPIDS and seizures\textsuperscript{5}.

References