



CFM OLYMPIC BRAINZ MONITOR

aEEG monitoring in BRUE (Brief Resolved Unexplained Event)

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PATIENT CHARACTERISTICS

Baby M was a previously healthy, 38 week male infant discharged home after standard 2 day stay in the postpartum unit. His mother reported an uncomplicated pregnancy course, was induced for hypertension and proteinuria, and proceeded to have an unremarkable vaginal delivery. Infant was 3 kg, and required no resuscitation.

CLINICAL COURSE

On day of life 4, Baby M's mother observed an episode of back arching, leg extension, and turning to his side when placed in his bassinet at home. She reported that he appeared to be holding his breath and his face turned red. After gently rubbing his back, Baby M quickly recovered, and a small amount of milk was noted in his mouth. Baby M was taken to the Emergency Room for evaluation where his mother reported that she had previously noted the infant arching after feedings, but that the leg extension and deviation to his side were new findings. She denied observing any rhythmic movements, lip smacking or tongue thrusting.

The initial sepsis screen done in the ER was unremarkable, so the infant was admitted to the NICU for further observation and evaluation. aEEG monitoring was initiated upon admission to assess for the presence of seizures and background brain activity. The aEEG tracing for Baby M showed a continuous normal voltage background pattern with mature sleep wake cycles as expected in a healthy, term infant (see figure below). The OBM Background Classification software correctly classified the background as Continuous Normal Voltage and quiet sleep as Discontinuous Normal Voltage.

Baby M remained stable throughout his admission. He occasionally demonstrated the arching behavior after feedings without apnea or bradycardia. The aEEG pattern was investigated around these events and no abnormalities or seizures were noted. No other clinical events concerning for seizures were observed and he was discharged home with his parents after 24 hours of observation.

DISCUSSION

Infants presenting with BRUE (formerly referred to as an Apparent Life Threatening Event or ALTE), are common admissions to the neonatal intensive care unit. The differential diagnosis for these infants typically includes: sepsis, metabolic disease, gastro-intestinal reflux and seizures. Monitoring the infant's brain function with aEEG using the automated Background Pattern Classification software on the Olympic Brainz Monitor provided the clinicians a quick, reliable method to determine an infant's baseline brain activity and screen for seizure activity, and to decide if further cEEG monitoring is warranted.

