for Dreaming, (Sound Impressions, Pty. Ltd.) and was administered using micro-speakers 20cm from the infant's head at 50-55 dbA. The aEEG was recorded on the BrainZ Monitor (BRM2, Version 8.0, BrainZ Instruments, New Zealand). Traces were evaluated offline for sleep-wake cycles and background patterns.

Results: aEEGs were recorded for a mean duration of 4.0 hours. All 20 patients showed continuous background patterns. SWC in the intervention group had a mean duration of 19 minutes, minimum amplitudes of 6mcV and maximum amplitudes of 25mcV whereas SWC in the control group had a mean length of 19min, min. ampl. of 8mcV and max. ampl. of 25mcV. The duration between SWC was 50 minutes in the intervention group and 53 minutes in controls.

Conclusion: There is a trend in SWC becoming more discontinuous in subjects exposed to music. There seems to be an effect of music on the behaviour of SWC.

578

SOME OCCASIONAL INTERVENTIONAL DIFFICULTIES IN CHILDHOOD-DIABETIC-KETOACIDOTIC(DKA)-HYPERGLYCEMIC-HYPEROSMOLAR(HHS) PRECOMA-COMAS STATES WITH UNUSUAL FEATURES/ ASSOCIATIONS: THE ARGUMENT FOR A COMPREHENSIVE-SYSTEMATIC-EVALUATION OF CASES FOR A DIRECTED- TIMELY- APPOSITE-INTERVENTIONS

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Background/purpose: The 4Ps-polydipsia-polyuria-polyphagia-progressive weight loss/ associated complications heralds the onset-of-adult-Type-I-DM. However, in childhood most cases were brought to notice by the abrupt onset of DKA-HHS-precoma/comas, occasionally other-unusual-complications/strikingly uncommon-associations, overwhelms-the-classic-features-/ posing-diagnostic/management -enigmas/delays. Some children with Diabetic coma continue to have physiologic-metabolic-instability/deepening-coma despite-aggressive-interventions. Although the most likely causes may be DKA-cerebral oedema-HHS, -other unusual -aetiology/pathological-associations-such as hypercoagulability,

-erythrocytopaenia, -meningoencephalitis, -malaria-, intracerebral suppuration,-acute-leucocytoclastic-vasculitis,-thrombocytosis,-reduced red-cell-plasticity,other-causes of metabolic-acidosis,-ATHI,-MRDM,-tumefactions should be considered/-excluded-especially in those cases-presentinig-unusually/-atypically-with- rare/-remarkable associations or/were therapeutically-difficult.

Methods/cases: An observational-prospective-analysis-of-cases-of-relevance.

Results: 66-cases of childhood-DM,with-precoma/-coma needed admissions,/closer monitoring ,/Intensive-care-support.Typically-classical-features-were-observed in 43(65.15%), while-the-remaining 23(34.85%) presented-atypically-unusually or with-remarkably-rare associations.Manifestations-ranging-from-extreme-fatigue,-exhaustion,-kaussmauls-breathing,-air hunger,-staggering,-unsteady/ abnormal-gait,-drowsiness,-somnolence,-stupor,-delirium,-confusion,acute-cognitive-defects,-disorientation,-altered mental status,-slurred speech,-obtundation,-poorly-responsive-status,-focal-neurologic-deficit,-sudden uncounciouness,-frank coma- were remarkably accompanying features in both subsets.The unusual,/atypical presentations/rare associations were subclassified systemically:These were DKA-HHS -with neurological-complications:Dural-sinus/-Lateral-sellar-compartment-thrombosis(n=1),Jacksonsonian-like-seizures(n=1)-encephalitis(n=1),-Severe-malaria/hyperparasitaemia(n=1),

D K A - w i t h - c i r c u l a t o r y - complications:Dysautonomia/-Internal warmth-syncope(n=1)-erythrocytopaenia(n=2),-acute-gastroenteritis(n=1),Cardiogenic-Hypovolumeic-shock-syndrome(n=1),necrobiosis-lipoidica-diabeticorum.(n=1),perforating-granuloma-annulare(n=1)-

DKA-with-renalcomplications:Azotaemia(n=1)-(enuresis n=1),-Haematuria-Urethral-syndrome(n=2),-hypocalcaemia(n=1)-Lactic-acidosis(n=1)-Deranged-LFTS(n=2),

DKA-with-multiple-complications:Multisystemic-infections-suggestive of an immunosuppressive-state such as suppurative-pneumonias-UTIs-GETs(n=1). DKA with other specified associations- Mariucs syndrome(n=1),MRDM-HHS(n=1),MRDM-DKA(n=1), Cases had very-

high-blood-glucose-levels/-ketonuria-in all but(n=2) where ketonuria was negligible. Interventions were directed,/-established-guidelines-for-DKA-HHS/-relevant associations/-emerging-complications-driven. Comparatively, Intractability, brittleness,-evanescence--Somogyi-Dawns-Phenomena/-poor outcome were more common in the cases presenting unusually/atypically/or with rare associations.

Conclusions-importance: This study reiterates the need for an early-structured-approach to the evaluations,-management of-DKA-HHS presenting-atypically,-or-with an uncommon/-rare-remarkable associations. Identifying these unusual/-striking associations are crucial because specific adjunctive-interventions-differ. An obligatory base-line-interval-investigations is recommended for all cases with unusual features-associations,/-tardively-resolving comatose-states,-labile blood-glucose-profiles,-lactic-acidosis,-shock, /cases with the need for overenthusiastic insulin,-fluid, -electrolyte,-applications,-MRDM,/-Mariuc syndrome, and the other therapeutically-difficult cases with severe abdominal pains. In such challenging cases minimum-investigations including relevant,-imaging,-coagulations-serological,-complete-haematological-studies,-in addition to others which will be emerging- complications-driven, is proposed for children living between the-Tropics-of-Cancer-Capricorn, also a mandatory- Pancreatic-function /abdominal-Ultrasonographic evaluations to exclude-disseminated-FCPD, and LFT-tests to rule out hepatic-cirrhosis,-CLL,-hepatic-infiltrations-steatosis will be worthwhile. In all concerned cases,-investigations/ interventions-should be more aggressive/-comprehensive.

579

BILIRUBIN UPREGULATES GENE EXPRESSION OF SLC7A11 AND INCREASES CYSTINE UPTAKE MEDIATED BY SYSTEM X_c⁻ IN SH-SY5Y NEUROBLASTOMA CELLS

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Background and aims: Severe neonatal hyperbilirubinemia can produce encephalopathy. We have previously demonstrated that exposure of SH-SY5Y cells to unconjugated free bilirubin (Bf) for 24 h induces several genes as the both components of

a glutamate-cystine antiporter (System X_c⁻). Cystine is implicated in glutathione (GSH) formation.

Present study was performed to analyze if the upregulation of System X_c⁻ induced by Bf offers protection from oxidative stress.

Methods: Cell viability was assessed by MTT test in SH-SY5Y cells exposed to 140 nM Bf for 24 h (T0). [¹⁴C]-cystine uptake was measured with and without l-quisqualate (an specific System X_c⁻ inhibitor). Cells were then growth in medium for 48h (T48) and 156h (T156) in the absence of Bf. GSH level and viability were measured after H₂O₂ exposure.

Results: Cell viability was reduced 30-40% after 24 h of Bf exposure. Cystine uptake was increased in surviving cells after 24 h Bf exposure. Further incubation with l-quisqualate for 4 h reduced cystine uptake to normal levels. GSH levels were 2.5 times that in control cell both at T0 and T48 but returned to normal levels at T156. Cells were protected from H₂O₂ exposure when GSH levels were high, but cells death was identical to controls at T156 when GSH levels returned to basal levels.

Conclusions: SH-SY5Y cells respond to Bf exposure by an increased gene expression and activity of the System X_c⁻. This was associated with a higher incorporation of cystine and GSH content which protected the cell from oxidative stress H₂O₂ induced.

580

HYPOTHERMIA TREATMENT PROLONGS THE POSSIBLE TIME TO RECOVERY OF AEEG TO PREDICT NORMAL COGNITIVE AND MOTOR OUTCOME

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BACKGROUND AND Aims: This study aims to investigate the correlation between amplitude-integrated EEG (aEEG) and outcome at 24 months in full-term infants treated with systemic hypothermia after perinatal asphyxia and moderate/severe hypoxic-ischemic encephalopathy (HIE)

Methods: In 2007, 21 infants with HIE were treated with systemic hypothermia (body temperature 33-34°C for 72 hours) using a Thecoterm® device.