

Abusive vs non-abusive head injury in children: A systematic review

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Context & Objective: To systematically review the literature to determine which clinical and radiographic characteristics are associated with abusive head trauma (AHT) and non-abusive head trauma (nAHT) in children?

Data Sources: We searched Medline, Embase, PubMed, conference proceedings and reference lists to identify relevant studies. **Study Selection & Data Extraction:** Two reviewers independently selected studies that compared clinical and/or radiographic characteristics including historical features, physical exam and imaging findings and presenting signs or symptoms in hospitalized children less than or equal to six years of age with AHT and nAHT.

Results: Twenty-four studies were included. Meta-analysis was complicated by inconsistencies in the reporting of characteristics and high statistical heterogeneity. Notwithstanding these limitations, there were 19 clinical and radiographic variables that could be meta-analysed and odds ratios were determined for each variable. In examining only studies deemed to be high quality, we found that subdural haemorrhage (s), cerebral ischemia; retinal haemorrhage (s), skull fracture (s) plus intracranial injury, metaphysical fracture (s), long bone fracture (s), rib fracture (s), seizure (s), apnoea, and no adequate

history given were significantly associated with AHT. Epidural haemorrhage (s), scalp swelling, and isolated skull fracture (s) were significantly associated with nAHT. Sub-arachnoid haemorrhage (s), diffuse axonal injury, cerebral oedema, head and neck bruising, any bruising, and vomiting, were not significantly associated with either type of trauma.

Conclusions: Clinical and radiographic characteristics associated with AHT and nAHT were identified, despite limitations in the literature. This systematic review also highlights the need for consistent criteria in identifying and reporting clinical and radiographic characteristics associated with AHT and nAHT.

Speaker Biography

Shalea Piteau is the Chief/Medical Director of Pediatrics at Quinte Health Care and an Assistant Professor at Queen's University. She went to Queen's University and graduated with a Bachelor of Science Honors Degree, and then she did a Masters of Science in Physiology at the University of British Columbia (UBC). Shalea went to Medical School at UBC and then she completed a Residency in Pediatrics at Queen's University. She enjoys doing on missionary work, and has done missions in various places including Africa, Asia, South and Central America, and the Native Reserves in northern Canada.

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