Development of Guidelines for Skeletal Survey in Young Children With Intracranial Hemorrhage

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BACKGROUND AND OBJECTIVE: As evidenced by the variation and disparities in evaluation, there is uncertainty in determining which young children with intracranial hemorrhage (ICH) should undergo evaluation with skeletal survey (SS) for additional injuries concerning for abuse. We aimed to develop guidelines for performing initial SS in children <24 months old presenting with ICH by combining available evidence from the literature with expert opinion.

METHODS: Using the RAND/UCLA Appropriateness Method, a multispecialty panel of 12 experts used the literature and their own clinical expertise to rate the appropriateness of performing SS for 216 scenarios characterizing children <24 months old with ICH. After a moderated discussion of initial ratings, the scenarios were revised. Panelists re-rated SS appropriateness for 74 revised scenarios. For the 63 scenarios in which SS was deemed appropriate, the panel rated the necessity of SS.

RESULTS: Panelists concluded that SS is appropriate for 85% (63), uncertain for 15% (11), and inappropriate for 0% of scenarios. Panelists determined that SS is necessary in all scenarios deemed appropriate. SS was deemed necessary for infants <6 months old and for children <24 months old with subdural hemorrhage that is not tiny and under a skull fracture. For children 6 to 23 months old with epidural hemorrhage, necessity of SS depended on the child's age, history of trauma, signs/symptoms, and ICH characteristics.

CONCLUSIONS: The resulting clinical guidelines call for near-universal evaluation in children <24 months old presenting with ICH. Detailed, validated guidelines that are successfully implemented may decrease variation and disparities in care.

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