Evaluation for Occult Fractures in Injured Children

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OBJECTIVES: To examine variation across US hospitals in evaluation for occult fractures in (1) children <2 years old diagnosed with physical abuse and (2) infants <1 year old with injuries associated with a high likelihood of abuse and to identify factors associated with such variation.

METHODS: We performed a retrospective study in children <2 years old with a diagnosis of physical abuse and in infants <1 year old with non-motor vehicle crash–related traumatic brain injury or femur fractures discharged from 366 hospitals in the Premier database from 2009 to 2013. We examined across-hospital variation and identified child- and hospital-level factors associated with evaluation for occult fractures.

RESULTS: Evaluations for occult fractures were performed in 48% of the 2502 children with an abuse diagnosis, in 51% of the 1574 infants with traumatic brain injury, and in 53% of the 859 infants with femur fractures. Hospitals varied substantially with regard to their rates of evaluation for occult fractures in all 3 groups. Occult fracture evaluations were more likely to be performed at teaching hospitals than at nonteaching hospitals (all P < .001). The hospital-level annual volume of young, injured children was associated with the probability of occult fracture evaluation, such that hospitals treating more young, injured patients were more likely to evaluate for occult fractures (all P < .001).

CONCLUSIONS: Substantial variation in evaluation for occult fractures among young children with a diagnosis of abuse or injuries associated with a high likelihood of abuse highlights opportunities for quality improvement in this vulnerable population.

Journal:

Pediatrics
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  Jan 2015