Occult Abdominal Trauma Screening in the Evaluation of Suspected Child Physical Abuse

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Background and objectives

Occult abdominal trauma (OAT) screening with transaminases, followed by abdominal computed tomography (CT) for transaminase values greater than 80 IU/L, has been recommended in cases of suspected physical abuse. This study aimed to evaluate case characteristics associated with OAT evaluation and determine OAT prevalence in these children.

Methods

Injured children aged younger than 60 months undergoing Child Abuse Pediatrics (CAP) consultation for suspected physical abuse from February 2021 to May 2023 were identified in CAPNET, a multicenter research network. Children with symptoms or signs of intra-abdominal injury were excluded. We identified case characteristics associated with transaminase screening and abdominal CT imaging using logistic regression and determined OAT prevalence.

Results

Of 6161 eligible children, 3982 (64.6%) underwent transaminase screening; 687/3982 (17.3%) had transaminases greater than 80 IU/L with 298/687 (43.4%) undergoing abdominal CT imaging. Variability in screening and imaging practices was identified between CAPNET sites. In a fully adjusted model, transaminase screening was associated with ages younger than 6 months, greater clinical severity, and site. CT imaging was associated with site, inpatient status, and higher transaminase range. We identified 16 OAT cases in children with transaminases greater than 80 IU/L, representing 2.3% of CAP-evaluated children with positive transaminase screening and 0.3% of all eligible children.

Conclusions

Providers often perform transaminase screening but not abdominal CT imaging despite transaminases greater than 80 IU/L. The low prevalence of OAT suggests that routine transaminase screening in suspected child physical abuse evaluations may not be necessary when all signs and symptoms of abdominal injury are absent.

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