Incidental Findings in Paediatric CT Scans Rare But Significant

In a recently published study in Pediatrics, more than a third of the 44,000 children presenting to 25 emergency departments received CT scans to evaluate an injury. About 4% of the scans revealed incidental findings, which ranged in severity from enlarged tonsils to life-threatening cancers. The analysis did not include those children who had an existing brain abnormality.

The researchers categorised the incidental findings into three:

1. those needing immediate evaluation or treatment;
2. those needing appropriate timely outpatient follow-up, and;
3. those that merited further investigation only if the problems were causing symptoms.

Only 0.1 percent of the overall sample of CTs were in the third category. Therefore, the study authors do not recommend any changes to current CT scan guidelines. They suggest that emergency medicine physicians continue to perform CT scans in children as is medically justified for their injury as a CT scan entails a small but known long-term risk of cancer from radiation exposure.

The authors believe physicians should balance the patient's right to know against financial costs and potential negative effects from additional testing, anxiety, and possibly even unneeded treatment after learning of the findings.

Alexander Rogers, assistant professor of pediatric emergency medicine at the University of Michigan Health System and lead author of the study, said, "Particularly in the emergency room, doctors must decide quickly whether and how to disclose information to a family with whom they have no prior relationship and do not know what their response is likely to be."

Nathan Kuppermann (pictured), professor and chair of emergency medicine at the UC Davis Medical Center and principal investigator of the study, said, "It is important for doctors to look for abnormalities other than what they expect to find and to be prepared to interpret and communicate these findings to families."

The research analysed data from a Pediatric Emergency Care Applied Research Network (PECARN) study designed to establish a decision rule for which children who present to the emergency room with a head injury should have a CT scan. The Pediatric Head Injury/Trauma Algorithm which resulted has become standard in emergency departments around the world and helped reduce the number of unnecessary CT scans in children.

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Source: UC Davis Health System, 11 September 2013
Nathan Kupperman Image credit : UC Regents
Link to video of Prof. Kuppermann explaining the study on YouTube

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