Audit of Paediatric Head Injury in University Hospital Kerry

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Dear Sir,

Head injury is a common reason for presentation to hospital in the paediatric population accounting for approximately 500,000 emergency department (ED), 37,000 hospitalisations and 2000 deaths per year in the United States. Local ED guidelines for paediatric head injury in University Hospital Kerry follow the NICE guidelines for head injury. These guidelines provide indications for admission for observation and/or computed tomography of the head (head CT). The paediatrics department reviews children >2 years old directly and applies guidelines from OLCHC based on CHALICE.

We carried out an audit to evaluate adherence to ED guidelines in University Hospital Kerry (UHK) in relation to admission, the use of imaging and the distribution of advice sheets on discharge. We aimed to include all children aged <16 presenting to UHK, seen by a doctor with a documented first presentation for head injury during this study.

We arranged a search of HIPE codes for patients aged <16 years triaged with the code “head injury” over the interval from 10/7/2017 until 10/9/2017. A standardised form was used to record if each patient met the criteria for observation and/or CT Brain, whether or not they were admitted and whether or not they received a written advice sheet on discharge.

All head CTs done over the interval in patients aged <16 years for head injury were identified. Repeat scans were excluded. We recorded if suitable indications were given in each request as per the ED guidelines.

We gave educational presentations to staff members in the emergency and paediatrics departments. We then repeated the study between 9/10/17 and 12/12/17.

During the first interval seventy nine first presentations with head injury were recorded vs thirty-three
in the second. One presentation was excluded in the second interval as the head injury was secondary to syncope. Twenty head CTs were included in the first interval vs six in the second. Thirteen (65%) head CTs had ED guideline indications documented in the patient record in the first interval vs four (66.66%) in the second (p=0.668). Eighteen (90%) head CTs had appropriate indications documented in the radiology request in the first interval vs six (100%) in the second interval (p=0.585).

There were twenty-five admissions in the first interval (31.65% of presentations) vs nine in the second (28.125%) (p=0.450). Ten admissions (40%) had recorded indications for observation/CT Brain in the first interval vs none in the second (p=0.025). Four additional admissions in each interval could be justified under the Crumlin guidelines.

Written advice was recorded as given to forty-three (53.75%) in the first interval vs 25 (78.125%) patients in the second. (p=0.016).

Overall, in both intervals sufficient indication for the CT (based on ED guidelines) was only noted in the patient record in approximately two thirds of cases. Rates of adherence to guidelines were substantially higher when reviewing radiology requests.

Adherence to ED guidelines with regards to admission for observation of patients was poor overall with a statistically significant disimprovement observed.

The intervention showed benefit in improving the distribution of written advice sheets.

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References
