

The Impact of the New Head Injury Pathway on the Number of CTs Performed in a Paediatric Population

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Abstract : Background: Computed Tomography (CT) is a significant source of radiation in the pediatric population. A new head injury (HI) pathway was introduced in 2021, which altered the previous process of HI being jointly admitted with general pediatrics and surgery to admit these patients under the Emergency Medicine Team. Admitted patients included those with positive CT findings not requiring immediate neurosurgical intervention and those who did not meet current criteria for urgent CT brain as per NICE guidelines but were still symptomatic for prolonged observations. This approach aims to decrease the number of CT scans performed. The main aim is to assess the variation in CT scanning rates since the change in the admitting process. A retrospective review of patients presenting to CHI PECU with HI over 6-month period (01/01/19-31/05/19) compared to a 6-month period post introduction of the new pathway (01/06/2022-31/12/2022). Data was collected from the electronic record databases, symphony, and PACS. Results: In 2019, there were 869 presentations of HI, among which 32 (3.68%) had CT scans performed. 2 (6.25%) of those scanned had positive findings. In 2022, there were 1122 HI presentations, with 47 (4.19%) CT scans performed and positive findings in 5 (10.6%) cases. 57 patients were admitted under the new pathway for observation, with 1 having a CT scan following admission. Conclusion: Quantitative lifetime radiation risks for children are not negligible. While there was no statistically significant reduction in CTs performed amongst HIs presenting to our department, a significant group met the criteria for admission under the PECU consultant for prolonged monitoring. There was also a greater proportion of abnormalities on CT scans performed in 2022, demonstrating improved patient selection for imaging. Further data analysis is ongoing to determine if those who were admitted would have previously been scanned under the old pathway.

Keywords : head injury, CT, admission, guideline

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