Project to improve management following a head injury for acute medical admissions and reduce CT head requests as per NICE guidance

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Introduction: Head injury is a common presentation to A&E accounting for 1.4 million attendances each year. Most patients require no radiological intervention and only head injury advice. Inappropriate CT head scans lead to unnecessary radiation exposure and significant expense to the NHS. NICE have produced guidelines for head injury management and criteria for a CT head scan.

Objectives: 1. To assess management of head injury in acute medical patients and use of CT head scanning against NICE guidance; 2. To put in place interventions to improve compliance with NICE guidance and reduce unnecessary CT Head scanning

Method: In the initial audit, a total of 26 patients cases were reviewed over a period of one month. Adult patients aged 16 years and over attending A&E with a head injury were audited. Data was collected by reviewing medical documentation and the imaging IMPAX system. Following the initial audit, 3 interventions were put in place: 1. Teaching sessions to junior medical staff around the management of Head injury as per NICE guidance; 2. Sign posting to Trust Head injury protocol; 3. Printed summary NICE guidance head injury pathway next to A&E staff computers. Following these interventions re-audits were performed as per the method above.

Results: In the initial audit, 13 out of 26 patients met the criteria for a CT head. A total of 13 (50%) of 26 patients had a CT head scan despite not meeting NICE head injury criteria. Following the 1st intervention the number of CT head scans that did not meet NICE criteria fell to 11 (42%) out of 26. Following interventions 2 & 3, the number of inappropriate CT head scans fell further to only 7 (27%) out of 26 patients.

Conclusion: The current management of acute medical patients with head injury showed that many CT head scans were requested inappropriately and did not fit NICE criteria. Following several interventions, we improved the knowledge of junior medical staff, compliance with NICE head injury guidance and criteria for CT head scans, resulting in a reduction of inappropriate CT Head scans from 50% to 27%.

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Immunotherapy for brain tumors: Illusion or real prospects?

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Major advances have recently been achieved in cancer immunotherapy. Strategies launched decades ago, such as tumor antigen-specific therapeutic vaccines and adoptive transfer of tumor-infiltrating lymphocytes, are being complemented by molecular engineering approaches allowing the development of tumor-specific TCR transgenic and chimeric antigen receptor T cells. In addition, the spectacular results obtained in the last years with immune checkpoint inhibitors are transfiguring immunotherapy; these agents being used both as single molecules, but also in combination with other treatment modalities. Implementation of these various strategies is ongoing for more and more malignancies, including tumors located in the brain, raising the question of the immunological particularities of this site. This may necessitate cautious selection of tumor antigens, minimizing the immunosuppressive environment, and promoting efficient T cell trafficking to the tumor. Taking these aspects into account is critical to efficiently design immunotherapy for patients suffering from tumors located in the brain.

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