Subarachnoid Haemorrhage: Are we meeting the 48-hour time to treatment target?

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Background

Subarachnoid haemorrhage (SAH) is a life-threatening bleed into the subarachnoid space. The majority of these bleeds (85%) are caused by ruptured aneurysms of cerebral vessels (1). Treatment of SAH is time-critical, with the mortality rate of untreated SAH being 30% in 24 hours. The RCP Stroke guidelines (2016) recommend bleeding cerebral aneurysms are treated within 48 hours of diagnosis (2). However, a national audit from the Getting It Right First Time programme in 2018 revealed that 22%* of patients across UK centres were not treated within this time frame (3).

Aims

To determine whether all SAH admissions into Queen Elizabeth Hospital Birmingham (QEHB) are meeting the 48-hour target. To determine the impact of the COVID-19 pandemic on the care of patients with SAH.

Methods

A retrospective audit was performed on patients presenting to QEHB with SAH from 01/03/2020 and 31/08/2020 (start of pandemic). 62 Patients with aneurysmal SAH were included in the study. Patient notes were used to gather their times of their journey, non-clinical reasons for treatment delay, rebleed incidence, survival, 6-month MRI outcome. Data was then analysed using Microsoft Excel to determine where delays occur and the reasons for these.

Key findings

1. Out of 62 patients included, 14 presented to QEHB directly and 48 presented to local hospitals
2. The median time from diagnosis to treatment was <48 hours for all groups.
3. However, 23% of patients (n=14) had treatment >48 hours post diagnosis
4. Delays were noted in getting a CT-angiogram at local hospitals, referrals getting accepted, and time to treatment after admission to QEHB.
5. Common reasons for delays included issues with receiving/sending scan images and capacity issues.
6. 29% of patients are still awaiting a follow up scan >7 months post SAH. This scan usually occurs 6 months after discharge.

Conclusions

The audit revealed that 23% of patients admitted to QEHB with aneurysmal SAH were NOT given treated within the 48-hour target timeframe. Improvements in time delays can be made by: Educating radiographers to automatically perform CT-angiogram alongside CT when SAH is present Producing a concise document outlining exact referral criteria and scans needed Improving image transfer systems and communication between hospitals Unfortunately, there was no comparison data from before COVID-19, making it difficult to determine the impact of COVID on meeting the 48 hour target. It is likely that the COVID-19 pandemic has significantly contributed to the delay in follow-up scans which may affect patient outcomes. The above recommendations will be implemented into clinical practice and will be subsequently re-audited in 12 months.

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