

Management of head injuries requiring admission in acute surgical setting

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Abstract

Almost everyone came across head injury patients during their surgical career. The management differs from hospital to hospital but there are certain amount of patients who stay for long period of time following head injuries for reasons that are not related to the injury itself.

Establish how many cases follow NICE guidelines for head injuries in adult patients. As a secondary aim to look into reasons for prolonged stay in hospital.

100 patients has been picked up retrospectively from December 2016. The criteria for inclusion have been: adult patient, head injury requiring admission. Patients were excluded if the management was done by emergency doctors only and did not require admission. Children patients have been also excluded.

In 30% of cases the NICE guidelines have not been followed. In 35% of admissions there was prolonged stay (more than required for head injury monitoring) with significant increase in elderly patients.

The NICE guidelines give excellent pathway to look after head injuries. If admission is required, patients should be placed in CDU or similar unit with minimal exposure to other admitted patients to try and prevent infection. There should be early physio assessment and aim for quick discharge. In group of elderly patient or patients with complex medical history, admissions to medical unit might be beneficial.

Background:

Majority of us came across head injury patients that are managed in non-trauma centre. This is within the UK usually under the care of general or trauma & orthopaedic surgery. Some cases require just observations but some are for any reason unsuitable for transfer to major trauma centre and remain under the care of surgeons in district hospitals. The main reasons patient are not transferred under the care of neurosurgeons or trauma surgeons is either the fact that patient is not suitable for any surgical management due to their frailty/co-morbidities or because they haven't got any operable abnormality on their scan. The latter group usually accounts for younger and healthier patient who are admitted for period of close observations and are frequently discharged home after this period. The former group are patients with significant co-morbidities or otherwise not suitable for surgery and often accounts for elderly group of patients.

This group is observed for period of time as required but frequently remain in the hospital longer due to problems with discharge. This can be cause but physiotherapy or occupational therapy deeming them unfit for discharge but there is also large group of patients with multiple health related problems of even new hospital acquired infections. Sometimes these events can be terminal. We understand that the management is different from hospital to hospital but we wanted to look into the NICE guidelines for head injuries and how there are followed. We also aimed to look for reason of prolonged stay in the hospital.

Objectives:

We understand that the management is different from hospital to hospital but we wanted to look into the NICE guidelines for head injuries and how they are followed. We also aimed to look for reason of prolonged stay in the hospital.

In cases that were included in this study, we used NICE guidelines for recommendation of scanning, admission for observations and discussion with neurosurgical unit. We did compare the recommended time for observation with actual length of stay. If there was discrepancy, we followed the notes to find out the reason for delay discharge using categories for delay due to administrative reasons (not finished discharge summaries), delay for social/physio-/occupational therapy reasons, delay due to medical condition directly associated with head injury (deterioration of neurological status) and delay due to medical condition not directly associated with head injury (i.e. hospital acquired pneumonia, urinary tract infection).

Methods:

Our study comprises of 100 patients that have been admitted under general surgery at Kingston Hospital from December 2015 to November 2016. These data have been obtained retrospectively. There was no other speciality involved in care for head injuries requiring admission to the hospital.

The inclusion criteria involved adult patients (at least 18 years of age at the time of injury) and head injuries requiring admission to hospital. We did not include emergency department attenders with head injuries which were discharged by emergency department doctors and not referred to any other speciality. Patients who did not reach their 18th birthday at the time of injury were also excluded.

Results:

We have collected 100 patients who sustained head injury and required admission for period of observation. Overall in 30% of cases the NICE guidelines have not been followed. This was mainly caused by not requesting scan based on clinical picture/nature of injury and from it arising decision of assessing doctor.

There were 54 females and 46 males. Majority (87%) of those patients were resident in their own homes while the remaining 13% was from residential or nursing home. 78% of patients was prior

to fall completely independent a mobile without any aids, 21% used some sort of walking aid and there was also 1 patient who was bedbound at the time of injury. The mechanism of injury was variable but majority of patients (80%) presented with fall from standing or less than 1 metre height. 6% of patients sustained fall from stairs and 7% have been involved in RTA.

For better demonstration of our results, we have divided patients into to subgroups - those who were younger than 65 years of age (not reached 65th birthday at the time of injury) and those who were 65 or older. This split the group to 30% and 70% respectively.

In the group of patients below 65 years of age 73.3% of patients left the hospital following period of observation as planned on admission. There were 23.3% of patients who stayed in the hospital longer than planned, from which 10% was caused by head injury related reasons and 13.3% by non head injury related issues (mainly social).

In the group of patients 65 years of age and older, there was significant difference. Only 51.4% of patients left the hospital following period of observation as planned previously. There was rather large group who stayed longer - 47.1%, from which only 1.4% was due to head injury related reasons. The rest of the patients who stayed longer (45.7%), remained in the hospital for non head injury related reasons. These were mainly physiotherapy and other unrelated medical reasons.

There was 1 death in either group.

Conclusion:

The patients admitted with head injury are likely to remain in the hospital following the required period of observation for other head injury related or unrelated reasons. The likelihood is much bigger in group of patients over 65 years of age with multiple comorbidities and with impaired mobility prior to fall.

Head injury remains quite a significant amount of acute admission and can lead to either prolonged stay in the hospital or even death. The management options are fairly limited and transfer to neurosurgical unit is minimal.

Discussion:

The NICE guidelines give excellent pathway to look after head injuries. It offers useful guidelines in management of patients in non neurosurgical unit with quite detailed advice on medication (anticoagulation) and further testing required.

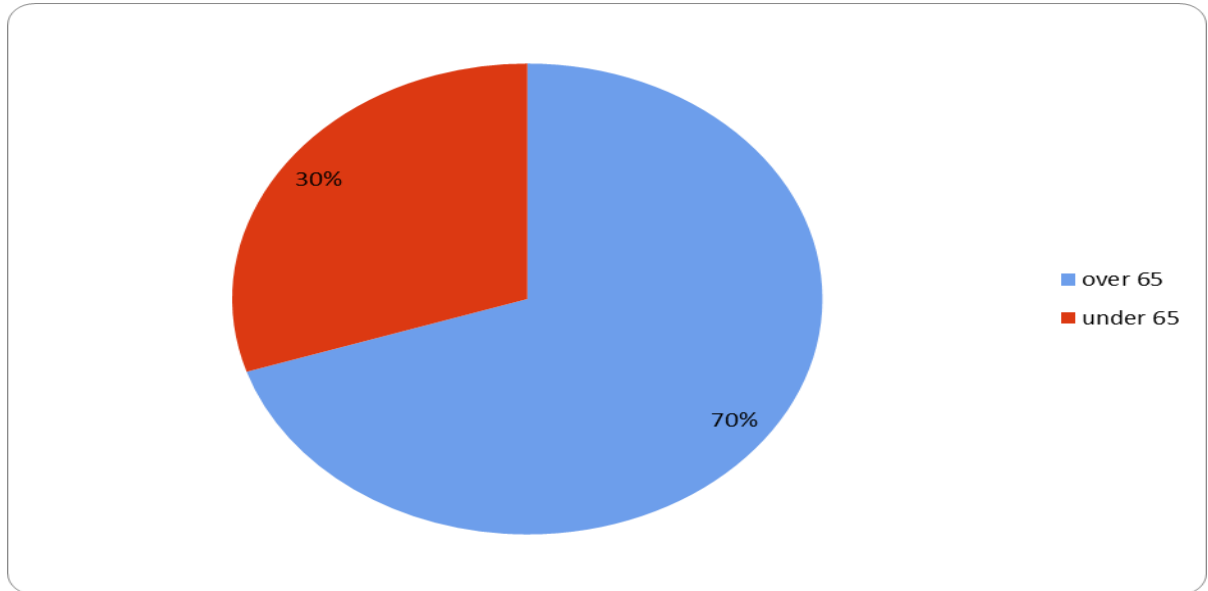
If admission is indicated, patients should be placed in clinical decision unit or short stay unit with minimal exposure to other admitted patients to try and prevent infection. There should be early physiotherapy assessment and aim for quick discharge. In group of elderly patient or patients with complex medical history, admissions to medical unit might be beneficial.

Following this audit in our hospital new clinical decision unit was established. This unit was run by emergency doctors and offered stay for 24 hours without admission to main hospital. It had access to early physiotherapy and rapid access to occupational therapy equipment. If patients remained unwell or new non head injury related symptoms occurred, patient have reassessed and referred to appropriate speciality. This was very useful in group of patient over 65 years of age who were more likely referred to medical ward for further management. There is no official audit yet in place but there is evident improvement in management of older patients with head injuries. These are more likely to be result of their general deterioration or other medical condition than pure mechanical fall only. The early involvement of medical team might be crucial in those cases.

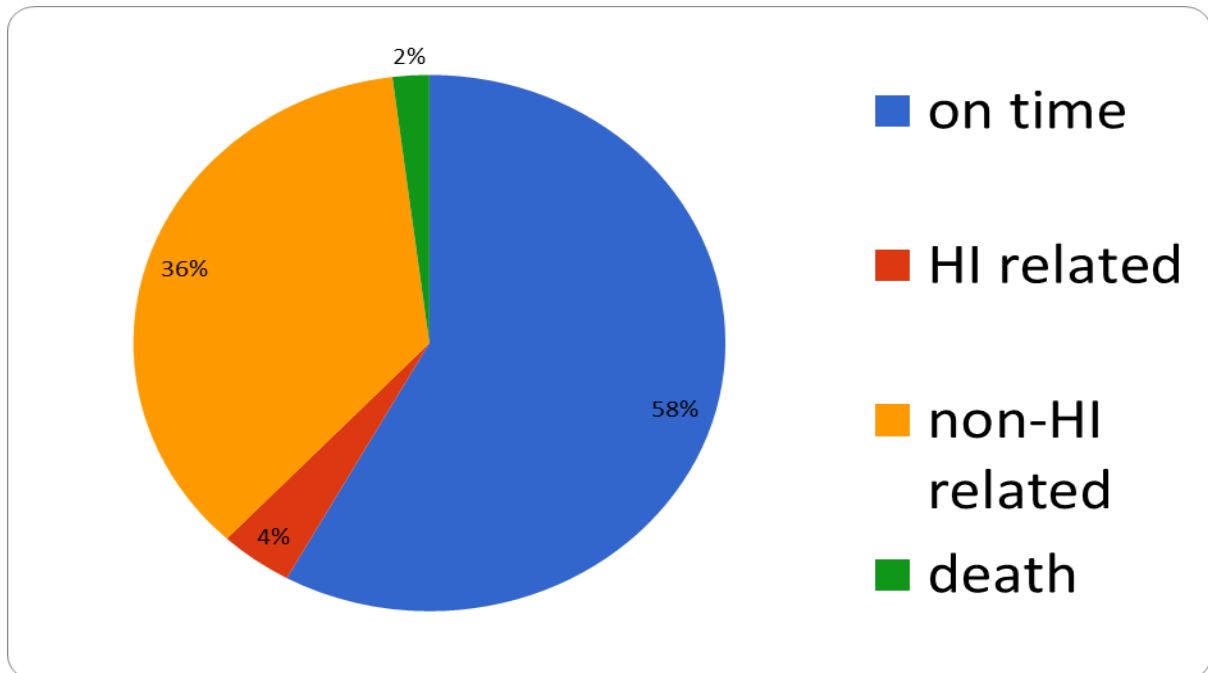
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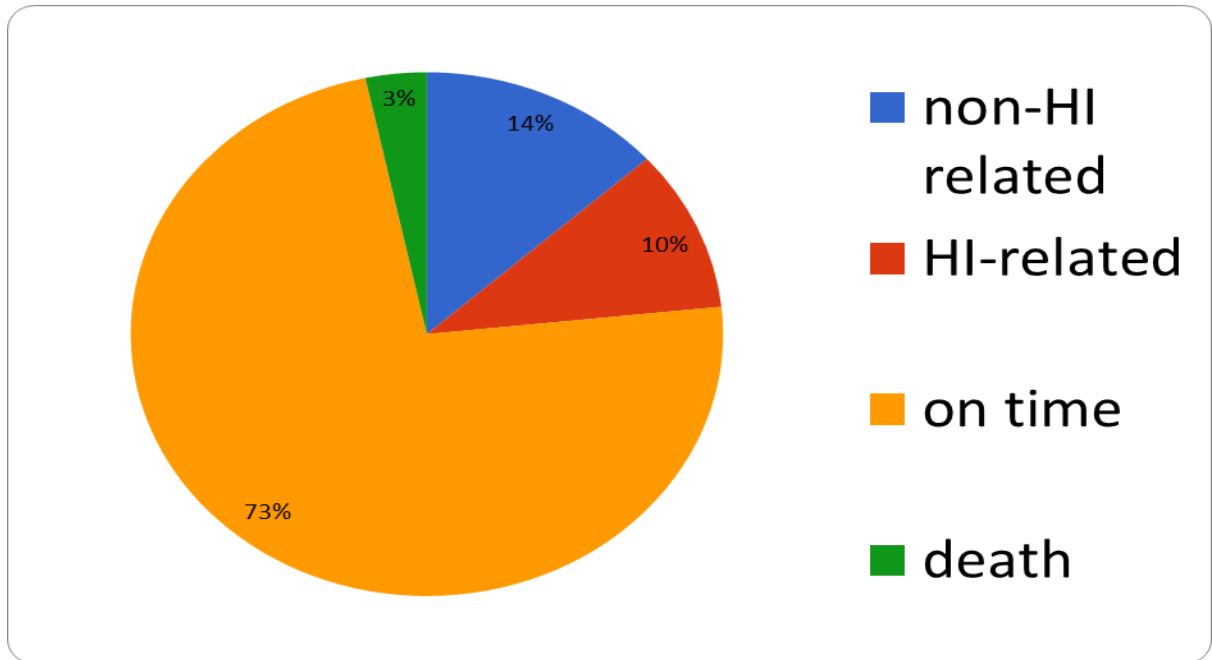
Graphs:



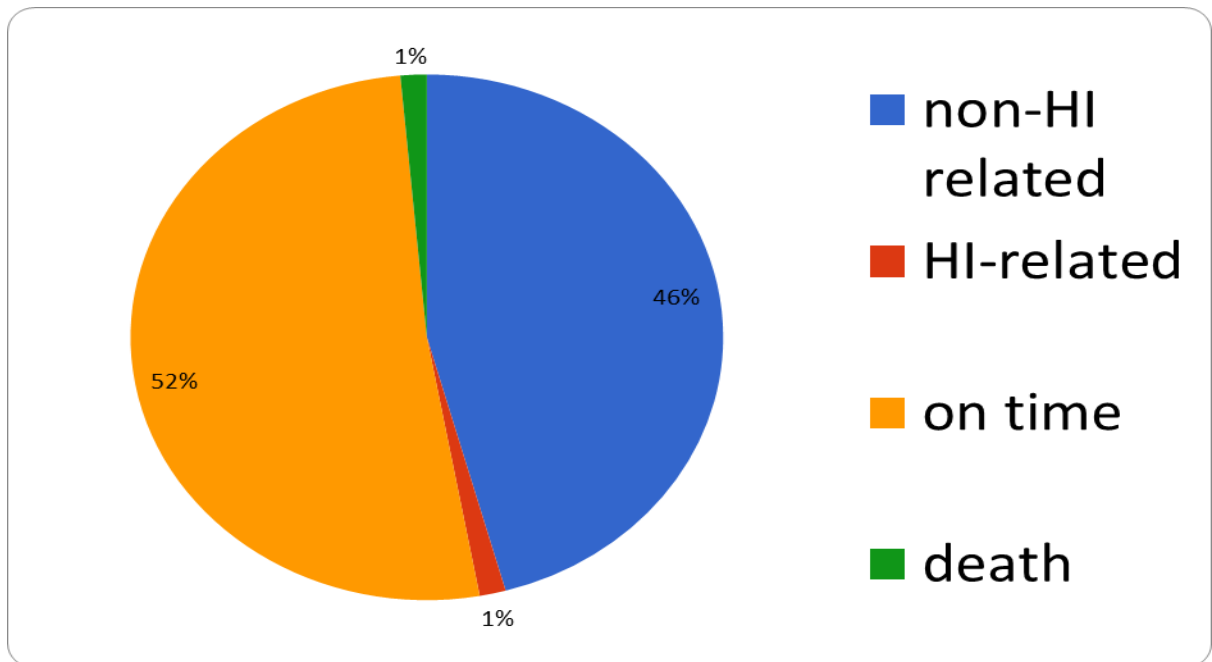
Graph 1: Division into subgroups based on age



Graph 2: Discharge according to planned observation time



Graph 3: Discharge according to planned observation time in group under 65 yoa



Graph 4: Discharge according to planned observation time in group over 65 yoa