A Review of Aspirin Administration in Acute Ischaemic Stroke and Transient Ischaemic Attack within 48 hours of Admission

Author: Teisha Doherty
Pharmacy Department, Sunshine Coast University Hospital, Sunshine Coast, QLD, Australia

Background

Stroke is a leading cause of death and disability in Australia, with early intervention and treatment critical to improve patient outcomes.[1] Current guidelines from the Australian Stroke Foundation recommend aspirin administration as soon as possible after symptom onset if imaging excludes haemorrhage.[2]

In order to assess and monitor stroke care in Australian hospitals, the Australian Stroke Data Tool (AuSDaT) is a data collection platform used to record clinical indicators.[3] Routine review of AuSDaT information collected for stroke patients at Sunshine Coast University Hospital (SCUH) displayed a higher than expected number of patients with 'no' or 'unknown' recorded for aspirin administration within 48 hours of admission with acute ischaemic stroke or transient ischaemic attack (TIA); this prompted further investigation.

Aim

To perform a retrospective audit of AuSDaT information to validate the aspirin administration status of patients listed as 'no' or 'unknown'.

Method

From 1 July 2017 to 31 December 2017, 284 patients were admitted to SCUH with ischaemic stroke or TIA. Of these patients, 9% (n=25) were classified as either 'no' or 'unknown' for aspirin administration within 48 hours of admission.

For these 25 patients, electronic medical records were reviewed to identify if they received aspirin and the time of administration on their national inpatient medication chart (NIMC).

Reasons for not commencing therapy were recorded and patients were re-allocated to the correct AuSDaT category:

AuSDaT Recording Categories for Aspirin Administration	
	Definition
Yes	The patient was administered aspirin during the hyperacute phase of their stroke (within 48 hours), including a hyperacute aspirin dose taken post onset of stroke symptoms prior to presentation to hospital
No	The patient was not administered aspirin
Other	The patient was not administered aspirin but another antithrombotic agent was provided, including all antiplatelet, anticoagulant and anti-thrombotic agents
Unknown	Unable to locate a drug chart or date of aspirin administration not clearly recorded
Contraindicated	Contraindication to aspirin therapy, including but not limited to; haemorrhagic stroke, aspirin allergy, acute gastric ulcers, haemophilia, thrombocytopenia etc

Results

Figure 1. AuSDaT Recording of Aspirin Administration within 48 hours of Admission with Acute Ischaemic Stroke/TIA

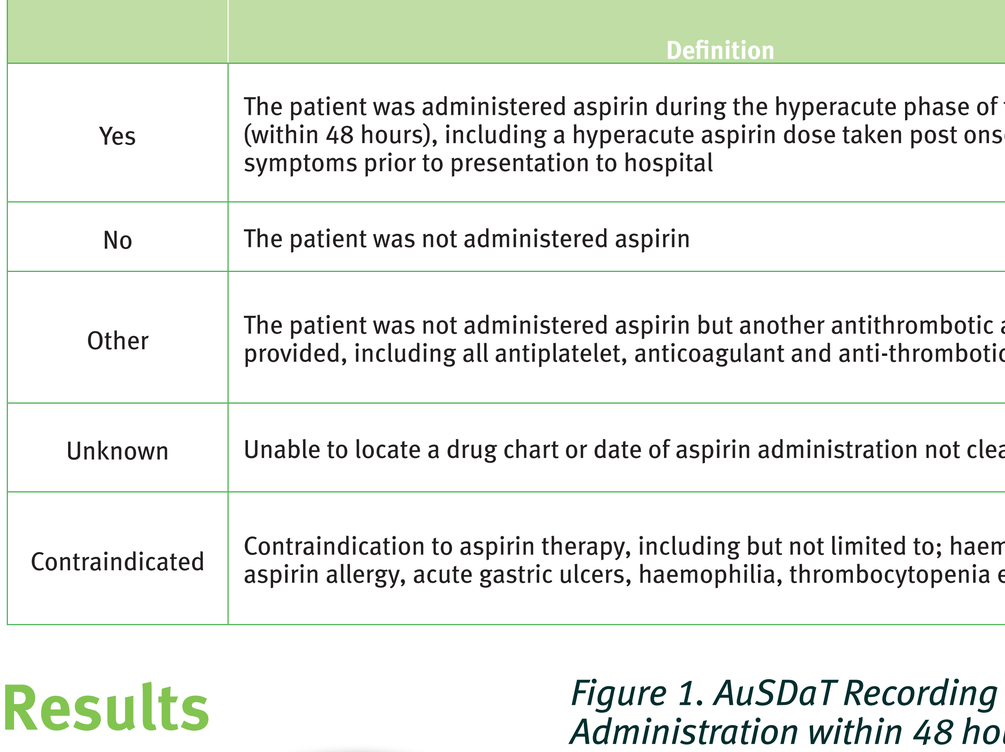


Figure 2. Analysis of the 25 patients recorded by AuSDaT as 'no' or 'unknown' for aspirin administration

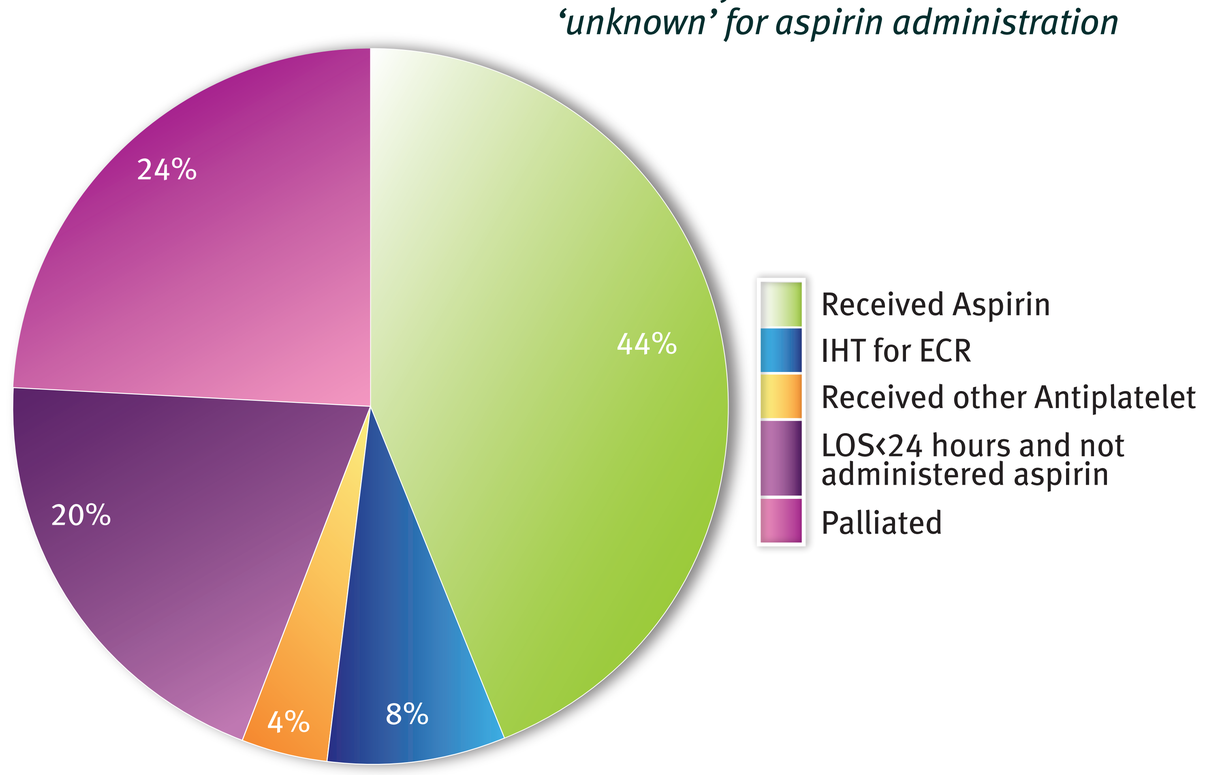
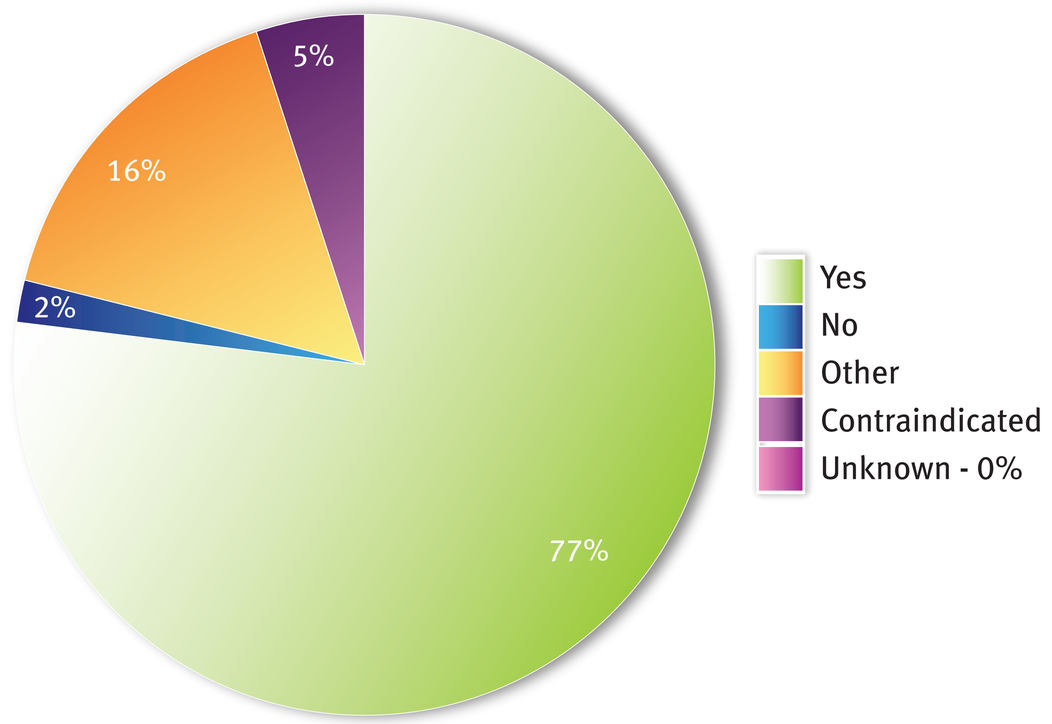


Figure 3. Corrected Recording of Aspirin Administration within 48 hours of Admission with Ischaemic Stroke/TIA



Discussion

Of the 25 patients reviewed, 11 patients (44%) received aspirin, while 1 patient (4%) received clopidogrel. A further 6 patients (24%) were palliated on admission and did not receive active treatment with aspirin and were re-allocated as 'contraindicated' to aspirin therapy.

During the study period, 2 patients (8%) were admitted to Emergency and rapidly transferred for Endovascular Clot Retrieval (ECR). One of the ECR patients received alteplase immediately prior to transfer, while the other was not administered fibrinolytic or antiplatelet therapy due to a recent gastrointestinal bleed. These patients were re-allocated to the AuSDaT categories of 'other' and 'contraindicated' respectively.

The 5 remaining patients (20%) were not administered aspirin in hospital, however all had a length of stay (LOS) of less than 24 hours. Further analysis of these 5 patients revealed 2 were usually on antiplatelet/s and had a clear plan to continue or escalate therapy on discharge. The remaining 3 patients had an unclear or no antiplatelet plan documented.

Conclusion

Following the audit, from the original 9% of patients listed as 'no' or 'unknown' for aspirin administration, 7% were re-allocated to the correct AuSDat category. Further clarification of the AuSDaT recording methods and category definitions may improve the accuracy of future data.

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1. Stroke Foundation Australia. Facts and Figures About Stroke [Internet]. c2018 [cited 2018 Jul 5]. Available from: https://stroke-foundation.org.au/About-Stroke/Facts-and-figures-about-stroke
2. Stroke Foundation Australia [Internet]. Melbourne Australia: Stroke Foundation. Clinical Guidelines for Stroke Management 2017- Chapter 3 of 8: Acute medical and surgical management; [v5.2 updated 2018 Mar 29; cited 2018 Jul 5]. Available from: https://informme.org.au/Guidelines/Clinical-Guidelines-for-Stroke-Management-2017
3. Australian Stroke Coalition. Introducing the AuSDaT [Internet]. [Cited 2018 Jul 5]. Available from http://australianstrokecoalition.com.au/ausdat/

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