Getting to Grips with Tokyo 18 Guidelines: Improving the Management of Acute Cholecystitis

Cheyaanthan Haran[1], Elizabeth P. Redman[2], Gary Stone[2]

[1] Wellington Intensive Care Unit, Wellington Regional Hospital
[2] Department of General Surgery, Wellington Regional Hospital

Introduction

Updated evidence-based guidelines[1] published in January 2018 recommend early cholecystectomy in acute cholecystitis for all patients with adequate physiological reserve after a surgical insult, regardless of the duration of symptoms.

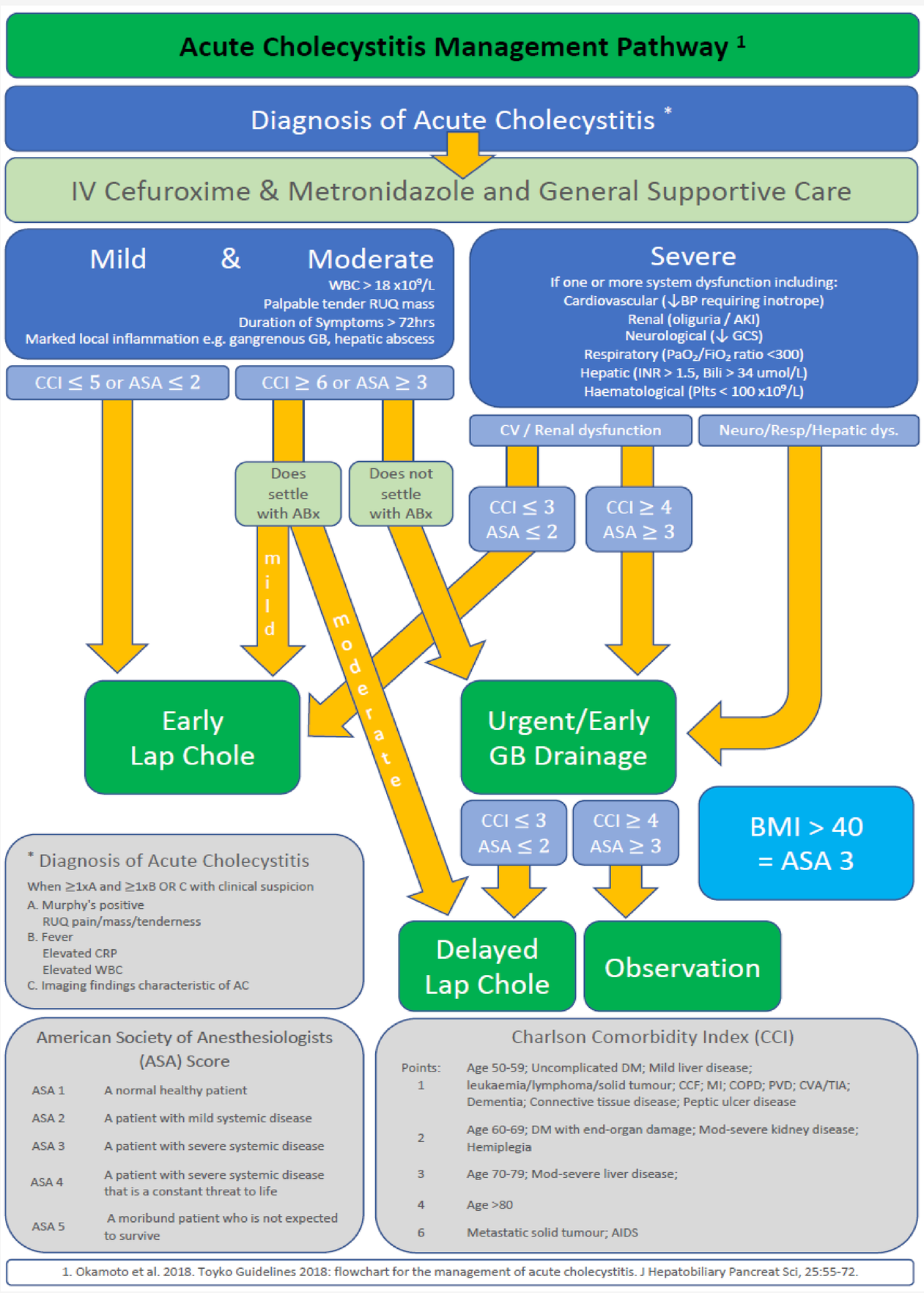
Aims

- Analyse the current trends in management of acute cholecystitis at Wellington Regional Hospital.
- Identify areas for improvement and introduce a management pathway.
- Complete a full audit cycle.

Methods

- Initial retrospective audit data collected from the Wellington Regional Hospital electronic record system.
- Audit approval: CCDHB Clinical Audit Committee.
- 12 month audit period: July 2017 - July 2018.
- Included: All patients over 18 with an index admission of Acute Cholecystitis.
- Data on demographics, co-morbidities and management collected.
- Action: Designed and implemented a management pathway based on the Tokyo 18 guidelines[1], departmental presentations, department posters of management pathway.
- 6 month re-audit period: April 2019 - September 2019.

Figure 1: Acute Cholecystitis Management Pathway, based off Tokyo 18 Guidelines[1].



1. Okamoto et al. 2018. Toyko Guidelines 2018: flowchart for the management of acute cholecystitis. J Hepatobiliary Pancreat Sci, 25:55-72.

Results

- Initial study: 118 patients, with 51% (n=61) male, 21% (n=25) Māori or Pacific Island ethnicity and a median age of 58 years (range 21-99).
- No statistically significant difference in operative times was found, with median operative times of 93 minutes (range 34—200) for group A, 91 min (46—151) for group B and 89 min (45 –112) for group C.
- Re-audit: 49 patients, with 43% (n=21) male, 20% (n=10) Maori or Pacific Island ethnicity and a median age of 58 years (range 26-89).

Figure 2: Initial management of Acute Cholecystitis before and after institution of the pathway.

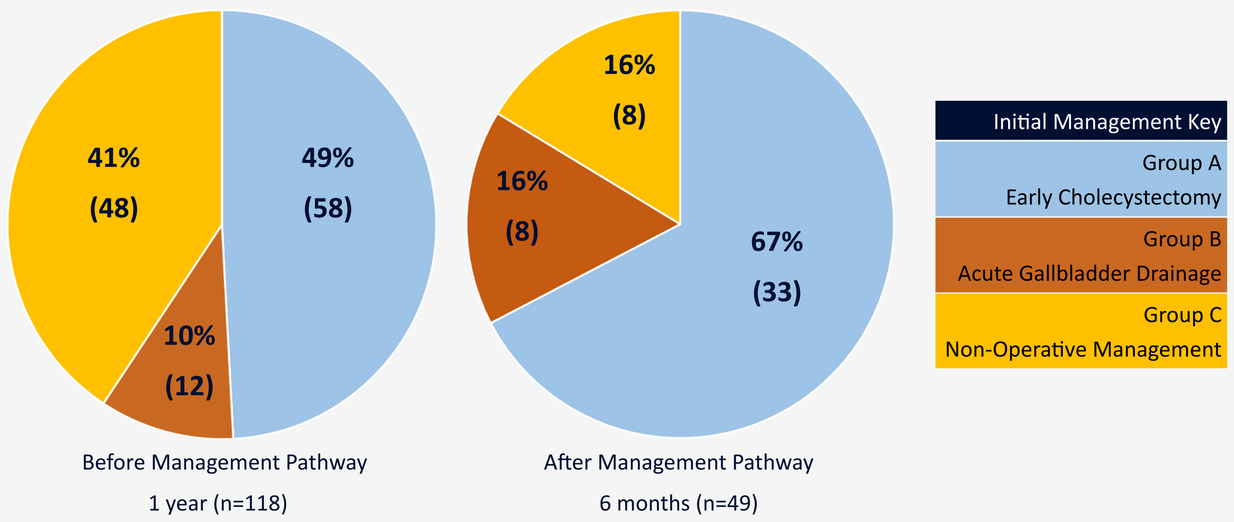
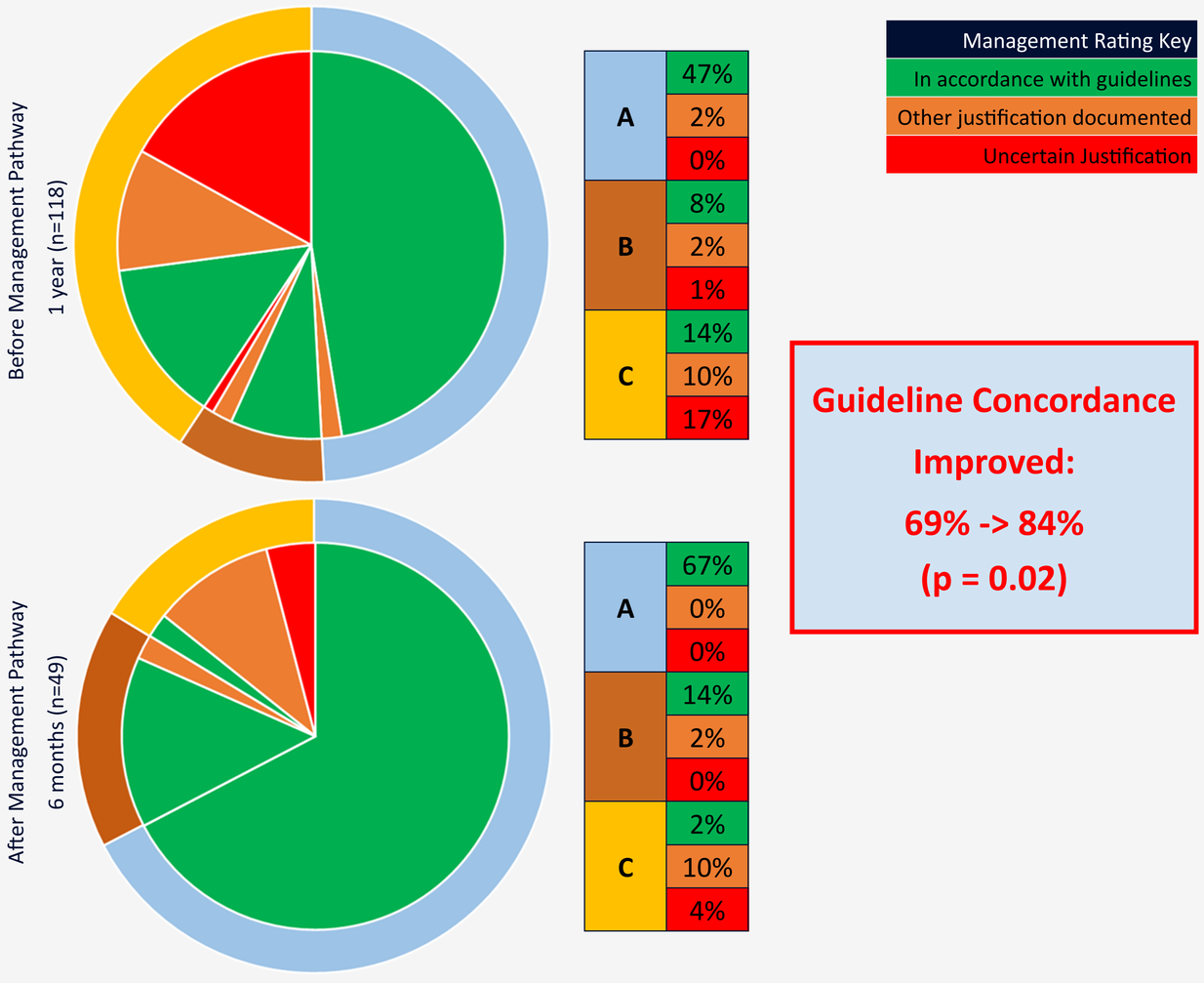


Figure 3: Concordance of Initial Management of Acute Cholecystitis with Tokyo 18 Guidelines[1].



Conclusions & Discussion

- Guideline concordant initial management of patients presenting to Wellington Regional Hospital with acute cholecystitis improved from 69% to 84%, following the implementation of a management pathway.
- Implementation of management pathways is a low cost and feasible intervention to augment clinical decision making and bring it more in line with international best practice guidelines.
- Surgical management sometimes requires nuance that falls outside strict pathways. This nuance is reflected by patients managed 'non-concordantly' but where other justification was documented.
- Further work is required to address those patients managed with uncertain justification, given that there is increasing evidence that demonstrates early cholecystectomy leads to: less overall morbidity; shorter total hospital stay; shorter duration of antibiotic therapy; reduced overall cost; and no statistically significant difference in operative time and complications.[2]

References

1. Okamoto et al. 2018. Toyko Guidelines 2018: flowchart for the management of acute cholecystitis. J Hepatobiliary Pancreat Sci, 25:55-72.
2. Kao et al. 2018. Evidence-based Reviews in Surgery. Early Cholecystectomy for Cholecystitis. Ann Surg, 268(6):940-942.

Correspondence: Dr Cheyaanthan Haran: Cheyaanthan.Haran@ccdhb.org.nz | **Conflicts of Interest:** None