Medicine for Care of Older People and Emergency Laparotomy: the lessons and how we can improve care.

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Introduction

Outcomes in emergency laparotomy are poor both in Europe and the US with a reported mortality rate of between 11-15%.^{1,2} In the UK, the National Emergency Laparotomy Audit (NELA) collects data on all emergency laparotomies in England and Wales and has reported a national mortality rate of 11%.³

Approximately 50% of patients undergoing emergency laparotomy are over the age of 70. NELA have reported a mortality rate six times greater than that of patients aged 50 or younger and report a much longer length of stay of up to 16 days.

However less than 10% of elderly emergency surgery patients are proactively seen by Medicine for the Care of the Elderly (MCOP) physicians.³

Hip fractures are known to carry a significant morbidity and mortality risk with a third of patients dying within one year. Orthogeriatrics is a service developed in the UK for patients undergoing hip fracture surgery. It involves shared care with a MCOP physician and the orthopaedic surgeon, and alongside quality standards from the National Institute of Clinical Excellence in Health Care has been shown to decrease mortality to 6.7% from 10.9%.⁴

A Comprehensive Geriatric Assessment (CGA) is an established method for evaluating and optimising physical, psychological, functional and social issues in older patients to improve longer-term outcomes. It is multi-disciplinary and has many different domains but allows treatment plans, rehabilitation and long term follow up.⁵

Methods

This was a before and after quality improvement project. Four hospitals in the South of England took part. Baseline data was collected on all consecutive patients over the age of 70 from 25 January 2016 to 25 June 2016. Review by an MCOP physician took place for all patients from 26th June to 30 October 2016. The MCOP physician was required to review the patient and perform a Comprehensive Geriatric Assessment within 72 hours of the emergency laparotomy and then proactively review the patient till discharge.

Results

213 patients underwent an emergency laparotomy between 26th January and 30th October 2016.

	Baseline	Implementation	p value
Number of patients	98	115	Total = 213
Average age (range)	80 (70 - 99)	80 (70 - 95)	0.75
ASA (mode)	3	3	0.28
Median lactate (range)	1.7 (0.6 - 7.4)	1.5 (0.6 - 13)	0.32
Median P POSSUM (range)	5.3% (1.3 - 78.8)	7.5 (0.7 - 77.2)	0.08
Median P POSSUM morbidity (range)	64.3% (16.2 - 99.3%)	67 (0.7 - 99.1)	0.83

25% of patients in the baseline group were reviewed by a MCOP physician that was unplanned. This outlines the ‘crisis management’ and the need for proactive shared care by MCOP physicians.

The average length of stay from admission in the baseline group was 24 days (range 1 – 130) and in the implementation group was 20 days (2 – 64). There was a reduction in the length of stay by 4 days which was statistically significant.

More patients were discharged to intermediate care facilities when seen by MCOP physicians. On average the number of reviews by MCOP physicians was 2.3.

There was no difference in mortality between the two groups. The baseline group had a mortality rate of 11% and the implementation group 12%.

Discussion

To our knowledge this is the first study of its kind looking specifically at proactive care by MCOP physicians for emergency laparotomy patients. It has shown a decrease in length of stay. The development of this service should be encouraged.

References

1. Tengberg LT, Bay-Neilsen M, Bisgaard T et al. Multidisciplinary perioperative protocol in patients undergoing acute high-risk abdominal surgery. *Br J Surg* 2017; 104(4):463-471.
2. Al-Temimi MH, Griffee M, Enniss TM et al. When is death inevitable after emergency laparotomy? Analysis of the American College of Surgeons National Surgical Quality Improvement Program database. *J Am Coll Surg* 2012; 215(4): 503-11
3. National Emergency Laparotomy Audit. NELA. <http://www.nela.org.uk/reports>.
4. Royal College of Physicians. National Hip Fracture Database annual report. 2017. <https://www.nhfd.co.uk>
5. Partridge JSL, Harari D, Martin FC et al (2014). The impact of pre-operative comprehensive geriatric assessment on postoperative outcomes in older patients undergoing scheduled surgery: a systematic review. *Anaesthesia* 69 (Suppl. 1), 8-16