



Original research

A 15-year retrospective analysis of the epidemiology and outcomes for elderly emergency general surgical admissions in the North East of England: A case for multidisciplinary geriatric input



Ross C. McLean, Iain J.D. McCallum, Steve Dixon, Paul O'Loughlin*

Department of Colorectal Surgery, Queen Elizabeth Hospital, Gateshead, NE9 6SX, UK

HIGHLIGHTS

- Elderly patients are becoming more frail.
- Outcomes for elderly surgical patients are improving.
- Weekend effect present when operation undertaken at weekend.

ARTICLE INFO

Article history:

Received 30 December 2015
 Received in revised form
 3 February 2016
 Accepted 11 February 2016
 Available online 23 February 2016

Keywords:

Emergency
 General surgery
 Elderly
 Mortality
 Outcomes

ABSTRACT

Introduction: Life expectancies in the UK are increasing and with this there is an increasing elderly population with more complex co-morbidity. Emergency surgery in the elderly is challenging in terms of decision making, managing co-morbidity and post-operative rehabilitation with high morbidity and mortality. To optimise service design and development, it is important to understand the changing pattern of emergency surgical care for this group.

Methods: After obtaining necessary approvals, we approached each hospital trust in the North of England for details of every emergency admission under a general surgeon from 2000 to 2014. Data for each admission included demographics, co-morbidities, diagnoses, procedures undertaken and outcomes.

Results: There were 105 002 elderly (≥ 70 years) emergency general surgical admissions, and mean age and co-morbidity (defined by Charlson index scores) increased (both $p < 0.001$). Operative intervention was undertaken in a similar proportion of patients in all age groups (13%), with more patients undergoing operations over time ($p < 0.001$), of which 50% were within 48 h of admission. Overall in-hospital mortality decreased significantly as did length of hospital stay (both $p < 0.001$). Factors associated with increased 30 day in-hospital mortality were increasing age and Charlson score, admissions directly from clinic, operations undertaken at the weekend and patients admitted earlier in the study period.

Conclusion: The workload of emergency general surgery in the elderly is becoming more complex. This challenge is already being addressed with improvements in outcomes. The data presented here reinforces the need for new models of care with increased multidisciplinary geriatric care input into elderly surgical patient care in the perioperative period.

© 2016 IJS Publishing Group Limited. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Life expectancy in the United Kingdom is increasing each decade for both men and women [1], and the population of the United Kingdom is aging [1]. In 2014, 11.4 million people (18%) were aged 65 and over and 8% aged 75 and over, the highest ever proportion

[1]. By 2037 it is predicted that the over 75s will comprise 13% of the population [1].

Population studies have shown that the number of co-morbidities increases with age [2,3]. No single medical issue can be treated in isolation, and consequently making clinical decisions in the multi-morbid elderly is complex [4]. This poses a significant challenge to health service providers and several bodies have attempted to address these concerns through the publication of guidelines specifically aimed at the quality of surgical care in the

* Corresponding author. Tel.: +44 01914452196.

E-mail address: paul.o'loughlin@ghnt.nhs.uk (P. O'Loughlin).

Box 1
Data Fields requested from NHS Foundation Trusts' Caldicott Guardian

Demographic Fields	age, gender, postcode
Co-morbidity Fields	ICD-10 Diagnosis 2 onwards
Diagnosis/Operation Fields	primary diagnosis (ICD-10 Diagnosis 1), operation date, operation type (Office of Population Censuses and Surveys (OPCS) codes for operation 1 onwards)
Outcome Fields	admission date and source, discharge date and location, readmission within 30 days of discharge, mortality: time to death

elderly [5,6].

Several small studies have demonstrated high rates of morbidity and mortality in elderly patients undergoing abdominal surgery [7–9]. In the over 80s age group, mortality rates for emergency general surgery are quoted at 39–42%, and 32% for emergency

colorectal procedures [7–9]. Despite small sample sizes these studies demonstrate the significant undertaking of emergency abdominal surgery in the elderly.

A National Confidential Enquiry into Perioperative Death (NCEPOD) report in 2010 identified recurring themes which may have led to poor outcome in elderly patients undergoing a surgical procedure for acute abdomen. These included delay between admission and theatre, seen in over 30% of cases which ended in patient mortality, poor perioperative assessment, inappropriate admissions under medical specialities with a surgical problem, and poor Medicine for Care of the Older Person (MCOP) service provision [5]. The recent publication of the National Emergency Laparotomy Association (NELA) project has focused the general surgical community on the care of patients undergoing emergency laparotomy [6]. Almost half of the patients undergoing an emergency laparotomy were over 70 years old; they had a longer length of stay, one in five would die within 30 days of surgery, which is a six fold greater mortality compared to those aged 50 or under [6].

Specific guidelines for the surgical management of elderly patients [5,6,10–12] aim toward expanding standard surgical services to multidisciplinary Medicine for Care of the Older Person (MCOP)-led services or anaesthetic services with geriatric special interest [10], which can provide comprehensive preoperative assessment and optimisation, and postoperative support to the surgical team

Table 1
Demographic and clinical characteristics of elderly emergency general surgical admissions by age group.

		Age (years)			Overall [N (%)]	p-Value
		70–79 [N (%)]	80–89 [N (%)]	≥90 [N (%)]		
Number of admissions		57 913 (55.2)	39 501 (37.6)	7588 (7.2)	105 002	
Gender	Male	30 404 (52.5)	17 563 (44.5)	2385 (31.4)	50 352 (48.0)	<0.001
	Female	27 508 (47.5)	21 938 (55.5)	5202 (68.6)	54 648 (52.0)	
Charlson score	Mean score (95% CI)	9.8 (9.7,9.8)	11.3 (11.2,11.4)	11.7 (11.5,11.9)	10.46 (9.8)	<0.001
	0–4	26 031 (44.9)	16 985 (43.0)	841 (11.1)	43 857 (41.8)	
	≥5	31 882 (55.1)	22 516 (57.0)	6747 (88.9)	61 145 (58.2)	
Deprivation Quintile	1 (Most)	12 170 (25.6)	7692 (23.8)	1344 (21.6)	21 206 (24.6)	<0.001
	2	11 786 (24.8)	7882 (24.4)	1454 (23.4)	21 122 (24.5)	
	3	8598 (18.1)	6135 (19.0)	1240 (19.9)	15 973 (18.6)	
	4	6791 (14.3)	4906 (15.2)	977 (15.7)	12 674 (14.7)	
	5 (Least)	8135 (17.1)	5749 (17.8)	1204 (19.4)	15 088 (17.5)	
	Admission Method	A&E	16 363 (35.3)	11 283 (35.6)	2109 (35.1)	
	GP	18 934 (40.8)	12 767 (40.3)	2484 (41.4)	34 185 (40.7)	
	Consultant Clinic	2291 (4.9)	1567 (4.9)	301 (5.0)	4159 (4.9)	
	Other	8781 (18.9)	6046 (19.1)	1113 (18.5)	15 940 (19.0)	
Clinical Risk Group	1 (Lowest)	24 995 (43.5)	17 063 (43.6)	3360 (44.7)	45 418 (43.6)	0.480
	2	16 996 (29.6)	11 646 (29.7)	2198 (29.2)	30 840 (29.6)	
	3	10 655 (18.6)	7135 (18.2)	1352 (18.0)	19 142 (18.4)	
	4 (Highest)	4780 (8.3)	3304 (8.4)	614 (8.2)	8698 (8.4)	
Day of Admission	Monday	10 078 (17.5)	6768 (17.2)	1348 (17.2)	18 194 (17.4)	0.128
	Tuesday	9002 (15.6)	6183 (15.7)	1200 (15.9)	16 385 (15.7)	
	Wednesday	8546 (14.8)	6078 (15.5)	1159 (15.4)	15 783 (15.1)	
	Thursday	8574 (14.9)	5954 (15.2)	1113 (14.8)	15 641 (15.0)	
	Friday	9061 (15.7)	6071 (15.5)	1130 (15.0)	16 262 (15.6)	
	Saturday	6195 (10.8)	4115 (10.5)	826 (11.0)	11 136 (10.7)	
	Sunday	6147 (10.7)	4120 (10.5)	767 (10.2)	11 034 (10.6)	
Day of Operation	Monday	1079 (13.6)	679 (13.8)	127 (12.9)	1885 (13.6)	0.167
	Tuesday	1303 (16.4)	808 (16.5)	172 (17.5)	2283 (16.5)	
	Wednesday	1312 (16.5)	842 (17.2)	184 (18.7)	2338 (16.9)	
	Thursday	1424 (17.9)	834 (17.0)	150 (15.3)	2408 (17.4)	
	Friday	1296 (16.3)	820 (16.7)	180 (18.3)	2296 (16.6)	
	Saturday	830 (10.4)	477 (9.7)	101 (10.3)	1408 (10.2)	
	Sunday	714 (9.0)	444 (9.1)	68 (6.9)	1226 (8.9)	
Operation	Yes	7958 (13.8)	4904 (12.5)	982 (13.0)	13 844 (13.3)	<0.001
	No	49 645 (86.2)	34 385 (87.5)	6561 (87.0)	90 591 (86.7)	
Operation within 48 h	Yes	4274 (53.7)	2630 (53.6)	521 (53.1)	7425 (53.6)	<0.001
	No	3684 (46.3)	2274 (46.4)	461 (46.9)	6419 (46.4)	

95% CI = 95% confidence interval for mean.

Note: Comparisons between categorical variables with time periods by chi-square test for trend. Comparisons between continuous variables and time periods by ANOVA.

Download English Version:

<https://daneshyari.com/en/article/4285455>

Download Persian Version:

<https://daneshyari.com/article/4285455>

[Daneshyari.com](https://daneshyari.com)