**Do older surgical patients who undergo emergency operation have higher prevalence of 30 and 90 days mortality, longer length of hospitalisation, or higher readmission incidence within 30 days of discharge compared to those managed conservatively?**

HS TAY 1, AD WOOD 2, J HEWITT 3, L PEARCE 4, SJ MOUG 5, K McCARTHY 6, MJ STECHMAN 7, PK MYINT 1,2

1. Aberdeen Royal Infirmary, Aberdeen
2. University of Aberdeen, Aberdeen
3. Cardiff University, Cardiff
4. Manchester Royal Infirmary, Manchester
5. Royal Alexandra Hospital, Paisley
6. North Bristol NHS Trust, Bristol
7. University Hospital of Wales, Cardiff

#### Introduction:

It is unclear whether older surgical patients who undergo emergency operation have higher mortality, longer length of hospitalisation or higher hospital readmission compared to those managed conservatively. We aimed to assess the prevalence of operations during emergency surgical admission of older people (≥65 years) and its association with mortality at 30 and 90 days post-admission, length of hospitalisation, and incidence of readmission within 30 days of discharge.

#### Methods:

We analysed data from the Older Persons Surgical Outcomes Collaboration (www.OPSOC.eu) to calculate the prevalence of emergency operations in older acute surgical admissions. The effect of operation on study outcomes was examined using multivariate logistic regression adjusting for age, gender, polypharmacy, haemoglobin, albumin, and frailty (assessed using the validated 7-point Canadian Study of Health and Ageing clinical frailty score).

**Results:**

Data were collected for 727 patients [mean age (standard deviation) =77.1 (8.2) years, 54% female]. Of them, 185 (25%) underwent emergency operation. Patients that received an operation were younger than those who did not [76(7.7) vs. 78(8.4) years; *P*<0.001]. The prevalence of operation was greater in males (30.2% males (receiving operation) vs. 23.5% males (receiving conservative management); *P*=0.006). Multivariate analyses showed no association between operation and mortality at 30 days [adjusted odds ratio (AOR) =0.40 (95% CI 0.13-1.25; *P*=0.116)] and mortality at 90 days (AOR) =0.64 (95%CI 0.30-1.41; *P*=0.27). Operation was associated with significantly increased odds for longer than median length of hospital stay [AOR =5.98 (95% CI 3.97-8.99; *P*<0.001)]. We found no association between operation and hospital readmission within 30 days of discharge [AOR = 1.08 (95%CI 0.65-1.77; *P*=0.77)].

#### Conclusions:

A quarter patients from this cohort had an emergency operation during their acute surgical admission in the UK setting. Operation was associated with longer length of hospitalisation but no association with 30 and 90 days mortality and readmission was demonstrated. Whether there is potential to improve the length of hospitalisation outcome in this patient population through comprehensive geriatric assessment needs to be evaluated.