

Analysing peri-operative cystectomy mortality in the older urological population: An Australian and New Zealand Audit of Surgical Mortality (ANZASM) study

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Introduction:

Radical cystectomy is the gold-standard treatment for muscle-invasive bladder cancer. Post-operative surgical morbidity and mortality is known to be higher in older populations. The average age of invasive bladder cancer in Australia has increased from 68 years to 76 years in the past 40 years. We aimed to determine the risk factors and causes of peri-operative mortality in patients aged over 75 undergoing cystectomy using data from the Australian and New Zealand Audit of Surgical Mortality (ANZASM) database.

Methods:

All urological peri-operative deaths in patients aged over 75 years were extracted from the ANZASM database between January 2009 and December 2022. We excluded all non-cystectomy deaths from this group. Statistical analysis was performed for patient demographics, duration of hospital stay, emergency or elective procedure, procedures underwent, diagnosis, ASA score, underlying comorbidities, complications and cause of death.

Results:

A total of 51 patients died post-cystectomy, which accounts for 3.58% (51/1424) of deaths from this older urology patient cohort. The median age was 80 years old (age range 75-97 years). There were 44 elective and 7 emergency cystectomy cases. 36 patients (71%) had an ASA score of 3 or greater. Cardiovascular comorbidities were the most common, seen in 33 patients. Fourteen patients had returns to theatre post-cystectomy including 10 exploratory laparotomies. Complications included six anastomotic leaks of small bowel, 10 with procedure related sepsis, seven had significant postoperative bleeding, six with tissue ischaemia, 13 as "other" complications. Causes of death included nine pneumonia, five myocardial infarctions, five respiratory failures, five with sepsis, three with shock, three with renal failure, two ischaemic bowel, one peritonitis and one epistaxis.

Conclusion:

Age is a risk factor for morbidity and mortality in patients undergoing cystectomies. We found that most patients had at least one major comorbidity, 71% were greater than ASA 3. Complications and causes of death were often disease processes which have better prognoses if detected and managed early (pneumonia, renal and respiratory failure and sepsis).