Service Priorities and Programmes

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Outcomes of major surgery in patients above 85 years old

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Introduction

Hong Kong's aging population has been a challenge to our healthcare. Among patients admitted to surgical ward, 11% of them are of age 85 or above. Major operations in this extreme age group have questionable benefit on survival and quality of life; the clinical decision on life-saving operation becomes more challenging for surgeons in emergency setting.

Objectives

This retrospective study aims to review the outcomes of major operations undertaken on elderly patients aged 85 and above, and to determine the factors contributing to mortality in elective or emergency operations.

Methodology

From May 2009 to March 2012, patients aged 85 and above who received either emergency or elective major operations were included. Data were collected from CDARS (Clinical Data Analysis and Reporting System) and ePR (Electronic Patient Record) including diagnosis, length of stay, hospital mortality, and survival after surgery. Pre-operative fitness was assessed using ASA class , APACHE II score and ECOG class , and risk factors predicting higher mortality were identified. Post-operative complications were reviewed.

Result

Total 180 patients aged 85 and above received major operations in this period. Their median age was 88 and 46% were males. Eighty-seven percent were emergency and 13% were elective operations. The most common pre-operative diagnoses included intestinal obstruction (41%), perforation of viscus (13%) and acute appendicitis (7%). Emergency group had higher ASA, APACHE II score and ECOG class than elective group; p-values for the differences were 0.080, 0.022 and 0.056 respectively. Overall hospital mortality was 28%, with 4.3% in elective group and 31.2% in emergency group ($p=0.007$). Complication rate in elective and emergency group were 26% and 74.5% respectively ($p<0.001$). Median survival after elective and emergency groups were 23 months and 11 months respectively ($p<0.001$). Risk factors that significantly increased mortality included: ASA Class III or above ($p=0.016$); APACHE II score

greater than 10 ($p<0.001$); ECOG status class III or above ($p=0.017$); operations in emergency setting ($p=0.007$); laparotomy ($p=0.001$); blood loss more than 200ml ($p=0.022$); post-op mechanical ventilator support ($p<0.001$) and inotropic support ($p<0.001$). In conclusion, patients in extreme age group with urgent surgical diseases have higher pre-operative risk factors; emergency major operations thus feature higher complication rate, higher hospital mortality and shorter post-operative survival compared to elective operations. Significant risk factors identified in this study can serve as a reference when selecting elderly patients for major operations.