Retrospective Audit of ASA 4 and 5 Patients Assessed for Non-Elective Surgery

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Aim: Despite some recent data (Larry McNicol, 2007), short term mortality and morbidity for patients with high ASA status presenting for acute surgery remain unclear. In particular, there is little information regarding the outcome for patients who were deemed unfit for surgery. This audit presents in-hospital and short-term (3–month) mortality and morbidity data for these patients, regardless whether surgery was carried out or not.

Methods: retrospective chart review of all patients presenting for acute surgery with ASA score of 4 or more between 1 Oct 2005 and 31 April 2006. Patient characteristics, pre-operative functional level (living arrangement and need for assistance), pre-operative physiological state (p-POSSUM), operation variables, intra- and post-operative complications, mortality at discharge and 3-month, and functional state at discharge were collected. Statistical analysis was carried out using XLStat 2008 Plugin for Excel 2007. Mann-Whitney and χ^2 tests were used as appropriate. Level of significance was set at p value of 0.05.

Results: Eighty operations were carried out on ASA 4E and 5 E patients during the study period. Twenty-two patients fitting the selection criteria did not receive surgery. Baseline patient characteristic were similar between the two groups except for age and extremes of dependence for activities of daily living. Patients who did not receive surgery were more elderly (average age 76 vs 61, $p < 0.05$) and more likely to be totally dependent (32% vs 8%, $p < 0.05$). However, p-POSSUM scores were comparable between groups. 3-month mortality for post-operative and non-operative patients were 15% and 72.7% respectively ($p<0.05$). Of the operative patients, 78% and 70% had at least 1 intra- and post-operative event respectively. Age > 65, p-POSSUM score > 40, and being totally dependent for personal cares were the only factors which predicted increased post-operative mortality. At discharge, 30% and 37% respectively of the surviving post-operative and non-operative patients went to a higher care living situation.

Conclusion: There were high mortality and morbidity for both operative and non-operative patients. Post-operative mortality was comparable to that found in the literature. Significantly more patients died when surgery was not offered due to medical co-morbidities. Age over 65-years, physiological POSSUM score > 40, and total dependence were risk factors of increased post-operative mortality. The POSSUM score did not differentiate patients who were deemed fit and unfit for surgery. Many patients did not return to their previous level of independent living.