

Assessment of risk of post-operative acute kidney injury in a large unselected cohort of patients

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Aims

The incidence of AKI and its risk factors have been studied in surgical patients, but usually in selected high risk sub-groups such as cardiac surgery or emergency laparotomy which is not generalisable to the entire surgical populations. The use of routinely collected pre and peri-operative data has not been widely assessed in terms of its ability to predict post-operative AKI. This study aims to describe the incidence of acute kidney injury following surgical procedures performed under general anaesthesia in a general hospital setting and examine the association between American Society of Anaesthesiology physical status classification system (ASA) score and adverse outcome including acute kidney injury in a multivariable analysis.

Methods

One year observation cohort study in an unselected surgical population including all inpatient operations performed at a large general hospital in the United Kingdom. Patients were recruited between the calendar year 2010 and followed up for two years.

Results

AKI occurred in 6977 patients from a total of 44358 patients included in this study (15.7%). All analyses suggested a significant association between ASA score and development of AKI. Interestingly operation severity score was not associated with an increased risk of AKI or mortality. AKI occurring pre or post-surgery was associated with an increased mortality.

Conclusion

This study has demonstrated that ASA score is associated with an increased risk of post-operative acute kidney injury and death.