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The role of post-operative continuous oxygen saturation monitoring in patients with BMI > 30 with suspected obstructive sleep apnoea: a prospective observational study

Category: Integrated Health

Claire Seiffert^{1,2}, Anthony Delaney^{1,2}, Michael Hibbert^{1,2}, Sarah Wesley^{1,2}

¹North Shore Private Hospital, St Leonards, NSW, Australia, ²Royal North Shore Hospital, St Leonards, NSW, Australia

Background & aims:

The relationship between obesity and obstructive sleep apnoea (OSA) is well established. Currently, a large majority of obese patients present for elective surgery with undiagnosed OSA. Such patients may be referred to the Intensive Care Unit (ICU) for post-operative monitoring given the known association of OSA with cardiorespiratory comorbidities and with postoperative complications. There are currently no Australian guidelines to guide the post-operative monitoring requirements for obese patients following elective surgery.

Objectives:

To compare the event rates of medical reviews, cardiac arrests and unanticipated ICU admissions in post-operative elective surgery patients with BMI >30 at intermediate or high risk for undiagnosed OSA undergoing continuous pulse oximetry monitoring.

Materials & methods:

We conducted a prospective cohort study at a private hospital in Sydney, Australia, in patients with a BMI > 30 who screened intermediate or high risk on the STOP-Bang questionnaire. Patients underwent continuous pulse oximetry for the first 24 hours post-operatively – high-risk patients in the ICU, intermediate risk patients in the ward. Low risk patients received usual ward care. Outcome data were collected regarding activation of the Early Warning System (EWS) and cardiac arrest calls.

Results:

180 patients in total were screened and 152 patients were included and classed as low (50), intermediate (78) or high risk (24) for undiagnosed OSA. No cardiac arrest calls or unanticipated ICU admissions were recorded. 35% of the high-risk group had a recorded desaturation (<95%) versus 18.1% (intermediate risk) and 11.1% (low risk).

Conclusion:

In obese surgical patients at intermediate and high risk for having undiagnosed OSA, the event rates for activation of the EWS, arrest calls and unanticipated ICU admissions are minimal despite recorded mild desaturations whilst monitored. High-risk patients should continue to be more closely monitored in ICU pending further studies.

