INICIDENCE AND RISK FACTORS FOR EMERGENCE AND PACU DELIRIUM

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Introduction:
Delirium is an acute brain organ dysfunction characterized by altered consciousness, inattention, disorganized thinking, and perceptual disturbances. New-onset delirium has been implicated as primary reason for 10-15% of hospital admissions with 10-30% of inpatients over 65 years old experience some delirium. Recent investigations indicate delirium's association with worse clinical outcomes (greater costs, length of stay, mortality, and long-term cognitive impairment).

Research Problem:
Little data exists about emergence and post anesthesia care unit (PACU) delirium. Emergence delirium generally described as agitation upon awakening from anesthesia, prior studies haven't utilized validated delirium assessment tools, likely missing hypoactive delirium.

Purpose of the study:
To study the incidence and risk factors of emergence and PACU delirium in postoperative patients using validated delirium assessment tool (the CAM-ICU).

Methods:
Prospective observational study of adult PACU patients. Investigator PACU nurses were trained in delirium monitoring. Exclusion criteria: baseline dementia, anoxic brain-injury, neuromuscular disorders, deaf/non-English speaking. CAM-ICU at PACU admission, 30 min, 1 hour, and discharge. Perioperative data collected: demographics, surgery-type, anesthetic length, and medications. Emergence delirium: agitated emergence or positive CAM-ICU upon PACU admission. PACU delirium: positive CAM-ICU at any other time point. Multivariable logistic regression performed to evaluate association of *a priori* defined risk factors with emergence or PACU delirium.

Results:
Four hundred postoperative patients studied with a median age of 57 and median ASA classification: 3. Emergence delirium present in 154 (38%) patients [agitated emergence75 (19%) and positive CAM-ICU upon PACU admission124 (33%)]. PACU delirium present in 67 (17%) patients overall [59 (15%), 32 (8%), and 15 (5%) at 30 min, 60 min, and PACU discharge, respectively]. Anesthetic duration and opioid administration were found to be independently associated with emergence delirium, whereas total perioperative opioid administration was independently associated with PACU delirium. Additional risk factors studied didn't have significant associations with either emergence or PACU delirium.

Conclusion:
Emergence and PACU delirium are common post-operatively. Anesthetic duration and opioid usage are associated with delirium. Further research needed to confirm these findings and to identify additional risk factors for emergence and PACU delirium, PACU nurses can be pivotal in recognizing and treating delirium.