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What's new in Emergencies? Anesthesia, Surgery and Postoperative Cognition

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Third millennium, denoted by facts from the World Health Organization and contemporary literature, reveals a new phenomenon of surgical and anesthesiological "nightmare" in form of Post-Operative Cognitive Dysfunction (1-3). Prospective study included 440 patients, male and female, triaged into three groups, with ASA levels I-IV. Additionally, Montreal Cognitive Assessment was performed. Standard laboratory analyses were done and findings recorded. Information about the use of anesthetics and other drugs for anesthesia (ex. anticholinergics), and duration of surgical procedure and anesthesia was statistically evaluated. Criteria for participating in the study: Group I: ASA levels I-IV, undergoing urgent vascular surgical procedure in general or regional anesthesia, within a 6-hour time interval after adequate diagnosis. Group II: patients undergoing major vascular surgical interventions, after 6 hours, but no later than 72 hours of admittance to the Emergency center. Group III: patients did not undergo surgical procedure due to lack of indications and were, therefore, treated conservatively. Twenty participants belonged to the third group of patients. Based on a conciliary decision, they did not have an indication for an urgent surgical procedure and therefore received conservative treatment. These participants did not affect the outcome of the study. Out of the total number of participants, 202 (50.5%) patients were males. 88 (22%) patients were younger than 40 years of age, 110 (27.5%) patients were between 40 and 60 years of age. Average age of the patients was 55.71 years (±18,273). From the total number of participants involved in the study, 270 (67.5%) patients to ASA III. Surgical procedure lasted up to 120 minutes in 148 (37%) patients. In 234 (58.5%) patients duration of anesthesia lasted up to 2 hours, and in 40 (10%) patients up to 3 hours. Interesting is that both first and second group of patients showed a statistically equal number and percent of patients who smoke (208 patients who smoke). Among all patients, 236 (84%) patients are chronic alcohol users. Additionally, 180 (45%) patients are chronic users of anxiolytics. Pearson's χ^2 test shows a statistically significant difference in regard to the use of anticholinergics ($\chi^2=19.220$, df=1, $p=0.000$, $p<0.05$). Pearson's χ^2 test shows a statistically significant difference in regard to blood transfusion, as well ($\chi^2=151.380$, df=1, $p=0.000$, $p<0.05$). However, according to Pearson's χ^2 test, no statistical significance was recorded among patients who consume tobacco and those who do not ($\chi^2=0.320$, df=1, $p=0.572$, $p>0.05$). Pearson's χ^2 test shows no significant difference regarding the use of anxiolytics ($\chi^2=2.000$, df=1, $p=0.157$, $p>0.05$), and a statistically significant difference in respect to use of anticholinergics ($\chi^2=19.220$, df=1, $p=0.000$, $p<0.05$).

In the study by Mason SE, which involved 255 elderly patients that were postoperatively admitted to the intensive care unit following a major vascularsurgery, development of POCD was two times greater in urgent cases (~ 40% of cases), when compared to elective interventions (4, 5).

Our results complement the data given by the World Health Organization and results of similar studies.

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