Intraoperative care and anaesthetic management.

John Michael*

Department of Anesthesia, Critical Care and Pain Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, United States

Abstract

Ageing is a physiological phenomenon that affects everyone over time and is clinically defined by degenerative changes to organ and tissue structure as well as their ability to function. Geriatric patients are typically more responsive to anaesthetic drugs. Usually, less medication is needed to produce the desired clinical result, and the duration of the drug's effects is common. The primary goal of perioperative treatment for the elderly population is to hasten recovery and prevent functional deterioration. When working with an elderly patient, it's crucial to keep the following in mind: All organ systems experience a steady loss of functional reserve as they get older, though to varying degrees. Age-related alterations are typically compensated for well, but the physiological reserve is limited under stress, such as during the perioperative period.

Keywords: Geriatric, Anesthesia.

Introduction

Geriatric people have a diminished ability to respond to beta-adrenergic stimulation and more frequently develop conduction abnormalities, bradyarrhythmias, and hypertension. The aged patient is more susceptible to atrial and ventricular ectopy and conduction delay due to fibrotic infiltration of the cardiac conduction channels. Additionally, the Frank-Starling mechanism is more frequently used by elderly people to generate cardiac output. Therefore, it's crucial to carefully examine fluid administration. Small variations in venous return will result in significant alterations in ventricular preload and cardiac output in the elderly, noncompliant heart. The aged patient fails to adequately compensate for hypovolemia because of diastolic dysfunction and diminished vascular compliance. Exaggerated transfusion is similarly not well tolerated [1].

Physiology and pathophysiology of aging

Age alters both pharmacokinetic and pharmacodynamics aspects of anesthetic management. The functional capacity of organs declines and co-existing diseases further contribute to this decline.

Respiratory: COPD, pneumonia, sleep apnea are very common among the elderly. Closing volume increases with age, and FEV1 declines 8-10% per decade due to reduced pulmonary compliance. PaO2 decreases progressively with age because of V/Q mismatch and anatomical shunt. Thus, it is recommended that elderly patients are transferred to PACU with oxygen via nasal cannula. Postoperative respiratory complications are most common in geriatric patients. The most significant clinical predictor of adverse pulmonary outcome is the site of surgery, with thoracic and upper abdominal surgery having the highest pulmonary complication rate [2].

Nervous system: As the nervous system is the target for virtually every anesthetic drug, age related changes in nervous system function have compelling implications for anesthetic management. Dosage requirements for local and general anesthetics are reduced. Administration of a given volume of epidural anesthetic results in a more cephalic spread, having though a shorter duration of sensory and motor block. Elderly patients take more time to recover from general anesthesia especially if they were disoriented preoperatively [3].

Opioids: Less medication is needed to relieve pain in the elderly. The elderly have lower morphine clearance. Due to an increase in the brain's sensitivity to opioids as people age, sufentanil, alfentanil, and fentanyl are twice as potent in the elderly. Remifentanil, which is more potent in senior people, changes in pharmacokinetics and pharmacodynamics. Age-related declines in clearance and central compartment volume need for titration of infusion rates.

Preoperative evaluation

The presence of a co-existing illness has a stronger connection to anaesthetic risk than the patient's age does. Therefore, in the preanesthetic evaluation, it is more crucial to ascertain the patient's health and estimate the physiologic reserve. One of the main causes of surgical morbidity in older individuals is pulmonary problems. For these patients, pulmonary optimization is necessary. The history and physical examination, as well as laboratory and diagnostic examinations, are of paramount relevance [4].

***Correspondence to:** John Michael, Department of Anesthesia, Critical Care and Pain Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, United States, E-mail:- john@michael569.edu

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Postoperative care: Aspiratory issues are vital in the postoperative period. The requirement for more limited hospitalization can't be overemphasized. Negligible intrusion medical procedure and territorial over broad sedation whenever the situation allows, could most likely lead to a better result for geriatric patients [5].

Conclusion

Elderly patients are remarkably defenseless and especially delicate to the pressure of injury, hospitalization, medical procedure and sedation in manners that are just somewhat perceived. Likewise, limiting perioperative gamble in geriatric patients requires smart preoperative evaluation of organ capability and save, careful intraoperative administration of coinciding problems, and watchful postoperative torment control. The use of peripheral blocks in the elderly promises favorable outcomes without compromising the safety of the airway or risking major hemodynamic effects. However, it should always be kept in mind that there are some anatomic changes in geriatric patients and that peripheral blocks have shown to last longer in these cases.

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