ΥΓΕΙΑ health

Anesthesia in the Elderly and Emergency Anesthesia

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Anesthesia in the Elderly and Emergency Anesthesia

Maria I. Dalamagka

Chapter 1

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GSC Biological and Pharmaceutical Sciences, 2022, 19(02), 158–159. Article DOI: 10.30574/gscbps.2022.19.2.0188 DOI url: https://doi.org/10.30574/gscbps.2022.19.2.0188

https://typeset.io/papers/4-0-general-anesthesia-in-geriatric-patients-in-combination-2sj0sfbd

Speaker Presentation: 4th Globar Webinar on public health Aug 05-06, 2022. https://www.globalscientificguild.com/4th-public-health/program.php

https://www.continuumforums.com/cms/pdfs/PHHMFORUM2023-tentative-program.pdf Public Health and Health Care Management. Webinar September 07-09, 2023

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General anesthesia in Geriatric patients in combination with Epidural anesthesia in the right colectomy

Maria I Dalamagka

Abstract

Aging involves a progressive loss of functional reserve in all organ systems, to variable extend. Moreover, perioperative morbidity becomes more frequent in the elderly with steep increases after the age of 75. The elderly are more sensitive to anesthetic agents and generally require smaller doses for the same clinical effect, and drug action is usually prolonged. In the study, a 78 -year-old man with Chronic obstructive pulmonary disease (COPD) and a cardiac history underwent a right colectomy with a combination of general and epidural anesthesia. The purpose of this paper is to investigate the beneficial effects of epidural anesthesia when it acts in combination with general anesthesia in elderly patients.

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Chapter 2

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International Conference on Pain Management and Treatment, July 28, 2022 | Webinar. Scientific Tracks Abstracts: Health Sci J (Health Science Journal, ISSN: 1791-809X, Journal h-index: 61 Journal CiteScore: 17.30, Journal Impact Factor: 18.23)

https://www.itmedicalteam.pl/proceedings/combined-spinalepidural-cse-technique-plus-ketamine-in-research-laparotomies-with-vertical-incision-case-report-65359.html

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Combined Spinal-Epidural (CSE) technique plus ketamine in research laparotomies with vertical incision: Case report

Maria I. Dalamagka

Abstract:The combined spinal-epidural (CSE) technique, a comparatively new anesthetic choice, includes an initial subarachnoid injection followed by epidural catheter placement and subsequent administration of epidural medications. Clinical studies have demonstrated that the CSE technique provides excellent surgical conditions as quickly as with single-shot subarachnoid block conditions that are better than with epidural block alone. A 72 year-old man with pelvic tumor undergoing laparotomy surgery underwent combined regional anesthesia (Th12 - O1) plus small doses of Ketamine via intravenous infusion. The combined spinal-epidural technique along with intravenous Ketamine offers a

better analgesic and hemodynamic result. Introduction The combination (CSE) allows for rapid relief of pain or induction of regional anesthesia by the rapid onset of spinal drugs and subsequent administration of medications for prolonged anesthesia [1-4]. In addition, postoperative analgesia via the epidural catheter can be delivered for extended periods [5-6]. Clinical studies have demonstrated that the CSE technique provides excellent surgical conditions as quickly as the single-shot subarachnoid block and with advantages in comparison to the conventional epidural block. The CSE technique has been described in the medical literature for use in general surgery, orthopedics, trauma surgery of a lower limb, and urological and gynecological surgery [7-11]. Case study A 72 year-old man with a known history of obstructive pulmonary disease and pelvic tumor, undergoing laparotomy surgery, underwent combined regional anesthesia (Th12 - O1) with subarachnoid infusion of 2.6 ml chirocaine 0.5%, 200 μg morphine and 0.1 ml Lidocaine 2%. Epidural infusion by placement of an epidural catheter with a test dose of 3 ml Lidocaine 2% and 5 ml Naropaine 0.75% and 15 minutes later an additional 5 ml Naropaine 0.75%. The patient was also given: Onda 4 mg, Dormicum 1 mg and Ketamine 20 mg plus 20 mg, 15 minutes later, by intravenus infusion. The patient was constantly monitored with ECG, NBP, and SpO2 monitoring. Hydrated with 1 lt Plasmalite and then titrated with 1 lt Ringers Lactate. Management and Outcome Combined subarachnoid - epidural anesthesia was given because the goal was to rapidly begin the blockade with subarachnoid anesthesia and the incision was extensive and the laparotomy particularly laborious due to the location of the tumor. It was enhanced with epidural infusion of the drug. Blockade rise to a satisfactory level so that intense surgical manipulations do not cause discomfort to the patient. In subarachnoid blockade, chirocaine 0.5% was preferred because it is distinguished for its hemodynamic stability and was combined with a small dose of 2% lidocaine for faster onset of blockade, as well as morphine 200 mcg for better blockade and postoperative analgesia. After the installation of the subarachnoid block, the height of the block (its dermatome installation) as well as the hemodynamic stability of the patient were checked and after it was documented, then 5 ml Naropain 0.75% was given. After 15 minutes and after maintaining a satisfactory blood pressure, an additional 5 ml of 0.75% Naropain was given. Ketamine was also given as an intravenous infusion, which induces dissociative anesthesia and provides analgesia without suppressing the respiratory system. Discussion Combined subarachnoid - epidural anesthesia is ideal anesthesia for patients who are unable to undergo general anesthesia, such as patients with chronic respiratory disease, who would be referred to an Intensive Care Unit as their respiratory tract does not allow their good postoperative course. The patient in the study was a respiratory patient with chronic obstructive pulmonary disease, who could not be released from the ventilator if he was under general anesthesia. In addition, epidural catheter dilation adds a complete analgesic effect postoperatively, as epidural doses can be given postoperatively or a continuous infusion drug pump can be connected epidurally and a satisfactory level of analgesia maintained.Conclusion It has been found that combined local anesthesia excels and offers better exclusion and the combination with ketamine leads to a better hemodynamic and analgesic result.International Conference on Pain Management and Treatment July 28, 2022. Pain Management 2022. Journal of Health Science ISSN: 1108-7366. Page 17

Combined Spinal-Epidural (CSE) technique plus ketamine in research laparotomies with vertical incision: Case report

Maria I Dalamagka

Abstract

The combined spinal-epidural (CSE) technique, a comparatively new anesthetic choice, includes an initial subarachnoid injection followed by epidural catheter placement and subsequent administration of epidural medications. Clinical studies have demonstrated that the CSE technique provides excellent surgical conditions as quickly as with single-shot subarachnoid block conditions that are better than with epidural block alone. A 72 -year-old man with pelvic tumor undergoing laparotomy surgery underwent combined regional anesthesia (Th12 - O1) plus small doses of Ketamine via intravenous infusion. The combined spinal-epidural technique along with intravenous Ketamine offers a better analgesic and hemodynamic result.

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Chapter 3

Anesthesia in the elderly with colon cancer and postoperative outcome

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Maria I. Dalamagka

Abstract: Colorectal surgery is commonly performed for colorectal cancer but morbidity and mortality remain high and vary among surgical centers. Two elderly patients with Colorectal Cancer and a history of Chronic Obstructive Pulmonary Disease underwent epidural anesthesia plus general anesthesia for colectomy surgery. In addition, Bridion was used as an inhibitor of muscle relaxation to better awaken them. The aim of the study was to evaluate the postoperative outcome of elderly patients with colorectal cancer and session disease Chronic Obstructive Pulmonary Disease, when they undergo anesthesia to perform a major surgery such as colectomy. The combination of epidural and general anesthesia showed encouraging results in the postoperative outcome of these patients and Bridion's effect on winning was significant.

https://www.researchgate.net/publication/382428764_ebookpdf.

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Chapter 4

Review Article: GSC Advanced Research and Reviews, 2024, 19(02), 204–207 Article DOI: 10.30574/gscarr.2024.19.2.0186. DOI url: https://doi.org/10.30574/gscarr.2024.19.2.0186

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COVID-19 and Mechanical Ventilation

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Abstract

Mechanical ventilation (MV) is used to treat patients with severe coronavirus disease 2019 (COVID-19). This severe respiratory illness, typically develops 8 days after symptom onset and when it does not respond to non-invasive respiratory support, it requires advanced respiratory support, including high concentrations of inspired oxygen and mechanical ventilation. Such therapies are also required for the acute respiratory distress syndrome (ARDS), which has been widely studied over several decade. Obesity as a disease causes a restrictive lung disease and is a sufficient predisposing factor for difficult ventilation of the patient in the ventilator. Higher BMI patients are more likely to be young, with single organ failure, less chronic comorbidity but with increased severity of hypoxemia at presentation. Severe respiratory failure from coronavirus disease 2019 (COVID-19) pneumonia not responding to non-invasive respiratory support requires mechanical ventilation. Although ventilation can be a life-saving therapy, it can cause further lung injury if airway pressure and flow and their timing are not tailored to the respiratory system mechanics of the individual patient. The phenomenon of “hard lung” is observed as the ventilation of intubated patients is very arduous and recruitment requires a lot of effort. Coronavirus disease 2019-induced acute respiratory distress syndrome (ARDS) is more severe in morbidly obese patients. This relationship between BMI and mortality was investigated by several observational studies, but the relationship was not universally observed. Some studies found increased BMI was associated with an increased risk of requiring intubation and ventilation, but with no clear relationship with mortality. The combination is quite difficult as these patients oppose the ventilator. Our objective was to determine the association between MV for treatment of COVID-19.

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Chapter 5

Emergency Medicine

Maria I. Dalamagka

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Abstract

Emergency defines the potential provision of rapid and effective Medical Nursing Care, in situations where life is threatened. Emergency medicine is defined as the branch of Medicine that operates within an organized EMS. Emergency Medicine System (EMS) is defined as the organized set of provision of immediate pre-hospital, in-hospital and inter-hospital care. Objectives of Emergency Medicine are the provision of an integrated system of pre-hospital, in-hospital and inter-hospital emergency care; improving the quality of emergency medical care; reduction of mortality, morbidity and disability related to injury and sudden illness. Collection of epidemiological data related to accident prevention and health promotion.

Dalamagka M. Emergency Medicine book.https://www.researchgate.net/publication/384358852_Emergency_Medicine_book----------

Καρδιακός κύκλος - cardiac cycle

https://slideplayer.com/slide/5486451/

Πολύ τραυματίας - multiple injured patient

https://slideplayer.gr/slide/1897589/----------

Chapter 6

2nd Euro Congress on Neurology & Dementia. Theme : Current Research Findings in Neurology and Dementia. Zurich, Switzerland. https://crgconferences.com/neurology/2021/committeemembers. September 27-28, 2021

www.iator.gr

Alzheimer's disease

Maria Dalamagka

Alzheimer's disease is a brain disease in which the destruction and death of brain cells leads to devastating mental disorientation over a period of time. It is often confused with dementia (mental and physical deterioration), the symptoms of which include worsening memory, changes in the person's personality, loss of concentration and judgment. The disease affects about four million people in the US. Although most patients are over 65, the disease is not a normal result of aging. Medication can relieve some symptoms in the early stages of the disease, but there is no effective treatment, as the exact cause of the disease remains unknown. The first to describe the disease was Alois Alzheimer (1864 – 1915), a German neurologist from where it got its name. In 1906, he studied a 51-year-old woman, whose personality and mental clarity were deteriorating, she was forgetting things, becoming paranoid, behaving strangely. After the woman's death, Alzheimer performed an autopsy on her brain, where he noticed an unusual swelling and entrapment of nerve fibers. He also noticed that the cell body and nucleus of nerve cells had disappeared. Alzheimer realized that these findings indicated a new, unrecognized disease. More than seven decades passed before researchers again turned their attention to this devastating disease. This tragic disease slowly destroys the brains of patients, as it deprives them of the thoughts and memories that make them unique human beings. The disease goes through a series of stages, as its onset is associated with a minimal loss of recent events. Gradually the disease is accompanied by non-recall of events, unsatisfactory personal hygiene, disturbed judgment and loss of self-concentration. Along the way it develops with confusion, restlessness, irritability and disorientation. These conditions worsen, until the end result, where patients are no longer able to read, write, speak, recognize loved ones and take care of themselves.Survival after the onset of symptoms is five to ten years, but can last up to twenty years. These patients are particularly vulnerable to infections (mainly pneumonia), which is also the main cause of death.A healthy brain consists of billions of nerve cells (neurons), each of which consists of a cell body, dendrites and an axon. The dendrites and axons together are called nerve fibers and are the extensions of the cell body. Nerve messages enter a neuron through the dendrites and leave the neuron through the axon. Neurons are separated from each other by narrow gaps, which are called synapses. The messages that travel from one neuron to another are carried across these narrow gaps with chemicals, neurotransmitters. This highly organized system allows the brain to recognize stimuli and respond appropriately. In the disease this system no longer functions. Patients' brains appear shrunken, particularly in the outer layer of gray matter, which is responsible for higher brain functions such as thinking and memory. A large proportion of the shrinkage is due to the loss of brain cells and synapses. The diagnosis is not simple, like a blood test. A definitive diagnosis can only be made by examining brain tissue after death. Diagnosis in living patients is based on history, clinical examination, laboratory tests to rule out other possible causes, and neurological tests to check for neurocorrelations. In this way the diagnosis approaches 90 percent. The specific cause of the disease remains unknown, although risk factors include advanced age, previous head injury, and gene mutations. Scientists are investigating the metal aluminum as a possible toxic agent involved in the development of the disease. Also under study is the role of the neurotransmitter acetylcholine, as a decrease in the levels of this substance is associated with serious symptoms. Some scientists believe that abnormal proteins found in plaques in patients' brains may be the answer to the disease. Another agent being studied is a slow-moving virus. The disease is the fourth leading cause of death in the United States (after heart disease, cancer, and stroke), and more than 100,000 Americans die each year from Alzheimer's disease.

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Chapter 7

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https://www.researchgate.net/publication/382428764_ebookpdf

Dalamagka Maria*. (2022). Mild Brain Injury. Zenodo.Mild Brain Injury

Editorial Article

Maria Dalamagka

The risk of developing an addiction to alcohol, tobacco, or drugs increases in the period immediately following mild traumatic brain injury (mTBI) but decreases over time, new research shows. The historical prospective study showed that in the short-term, individuals with mTBI had a significantly increased risk for alcohol dependence, nicotine dependence, and nondependent abuse of drugs or alcohol compared with a similarly injured non-mTBI comparison group. "Our findings suggest an increased risk for incidence of alcohol dependence, nondependent abuse of drugs or alcohol, and nicotine dependence during the first 30 days following mild TBI and a risk thereafter for alcohol dependence for at least 6 months after injury," the authors, led by Shannon C. Miller, MD, from the Veterans Affairs Medical Center, Cincinnati, Ohio, write.According to the investigators, addiction-related disorders have been linked to an increased risk for TBI caused by motor vehicle accidents and falls. However, they note, little research has assessed the reverse pattern. The investigators sought to assess possible associations between mTBI, commonly known as a concussion, and addiction-related disorders in active-duty US military personnel. The researchers used electronically recorded demographic, medical, and military data for more than one half million active-duty US Air Force service members. mTBI was identified using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes listed by the Centers for Disease Control and Prevention in 2003. According to these codes, mTBI is defined as transient confusion or disorientation, memory loss, or brief loss of consciousness. The researchers selected 5065 incident cases among airmen who were on active duty for at least 180 days between October 1, 2001, and September 30, 2008. The comparison group included 44,733 airmen who were diagnosed with an outpatient injury to the torso, spinal cord, abdomen, pelvis, digestive tract, or genitourinary tract and were designated as the "other-injured group" for the purposes of the study. Time after mTBI was divided into 3 periods: 1 to 30 days, 31 to 179 days, and longer than 180 days. The researchers found that the hazard for alcohol dependence was significantly elevated for all 3 periods in the mTBI group compared with the other-injured group. The hazard for alcohol dependence was highest in the first 30 days following a diagnosis of mTBI (hazard ratio [HR], 3.48; 95% confidence interval [CI], 1.86 - 6.51). The likelihood of alcohol dependence decreased consistently with time. At 31 to 179 days

post mTBI, the HR was 2.66 (95% CI, 1.86 - 3.81), and at 180 days or longer post mTBI, the HR was 1.70 (95% CI, 1.31 - 2.21). The pattern for nicotine dependence and nondependent abuse of drugs or alcohol was similar, with the highest HR for nicotine (HR, 2.03; 95% CI, 1.56 - 2.66) and for drugs or alcohol (HR, 2.11; 95% CI, 1.65 - 2.70) occurring within the first 30 days of mTBI. The study also showed a greater risk for opioid dependence or abuse in the 1- to 30-day period (HR, 6.14; 95% CI, 1.20 - 31.31) and also in the 31- to 179-day period (HR, 3.98; 95% CI, 1.14 - 13.93). However, these 2 HRs were based on only 3 and 4 diagnoses, respectively.Previous research has indicated that the effects of mTBI resolve quickly, but the results of the current study suggest that alcohol dependence "may be a long-lasting adverse health outcome following mild TBI," the investigators write."Given the increasing emphasis and awareness of mild TBI in both military and civilian populations, these findings may have far-reaching clinical and military readiness implications," the authors suggest. They add that their study has limitations, including the use of multiple ICD-9-CM codes to identify mTBI. They also suggest that the codes may not have been assigned accurately in all cases, but that the strategy of using the other-injured comparison group and the use of 3 different periods could mitigate these limitations. Dr. Miller and colleagues also caution against any cause-and-effect interpretations of the study results. "Although a causal mechanism seems biopsychosocially plausible, it is not clinically intuitive that hazard ratios would be elevated so soon after the incident mild TBI (within 30 days)," they write. They conclude that any alcohol or drug use after TBI is concerning because of the potential for reduced healing, risk for seizures and repeat TBI, and exacerbation of residual cognitive, emotional, and behavioral impairments. Further, the authors call for routine screening for addiction-related disorders after mTBI and for alcohol dependence screening to continue for at least 6 months following the injury.

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Chapter 8

Dalamagka Maria. (2022). Septic Shock. Zenodo.Journal of Anesthesia and Anesthetic Drugs ISSN: 2770-9108J Anaesth Anesth Drugs, 2022, 2(2): doi https://doi.org/10.54289/JAAD00107

DOI:10.54289/jaad2200107

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Dalamagka Maria. (2022). Septic Shock.
Zenodo.https://www.researchgate.net/publication/382428764_ebookpdf

https://journals.indexcopernicus.com/api/file/viewByFileId/1509963

Septic Shock

Editorial articleMaria Dalamagka

Patients who present to the emergency department demonstrating clinical signs of circulatory shock constitute a medical emergency, often associated with significant mortality. Severe sepsis, characterized as infection with systemic manifestations and accompanying organ dysfunction or tissue hypoperfusion,

can lead to septic shock.Septic shock is defined as severe sepsis plus sepsis-induced hypotension not reversed with adequate fluid resuscitation. Hypotension may be defined by a drop in systolic blood pressure (SBP) to < 90 mm Hg or by at least a 40 mm Hg from baseline. The inadequate perfusion of critical organs (heart, liver, and kidneys) may lead to significant morbidity and mortality.Initial hemodynamic management of patients presenting with hypotension and concern for septic shock should consist of fluid therapy with 10-40 cc/kg of crystalloids, preferably normal saline, or lactated Ringer's solution. Various medications are used in the treatment of patients in circulatory shock.The use of vasopressors is an important component of resuscitation efforts, with the goal of therapy to maintain mean arterial pressure (MAP) at least 65 mm Hg. Dopamine and norepinephrine have generally been considered first-line agents in patients presenting with septic shock; in fact, recent consensus guidelines and expert recommendations have suggested that either agent may be used as a first-choice vasopressor in patients who have septic shock. Epinephrine, vasopressin, and neosynephrine may be useful second-line agents. Inotropic therapy with dobutamine may also be necessary in myocardial dysfunction.Because hypotension may be life-threatening, vasopressors help to maintain adequate blood flow and tissue perfusion despite hypovolemia. Dopamine increases heart rate and stroke volume, leading to an increase in cardiac output and MAP. In contrast, norepinephrine is a vasoconstrictor and thereby increases MAP with little effect on heart rate and stroke volume. While norepinephrine is considered to be more potent and thereby more effective in increasing blood pressure in septic shock, dopamine may be useful in patients with systolic dysfunction, but is also associated with more tachycardia and dysrhythmias. There is also concern regarding adverse effects on the endocrine and immune systems with dopamine. It has also been noted that norepinephrine may potentially decrease cardiac output, oxygen delivery, and blood flow to vulnerable organs despite adequate perfusion pressure.. Meanwhile, vasopressin, an endogenously released peptide hormone, has emerged as an adjunct to catecholamines for patients who have severe septic shock. The rationale for its use is the relative vasopressin deficiency in patients in septic shock and the hypothesis that exogenously administered vasopressin can restore vascular tone and blood pressure, thereby reducing the need for the use of catecholamines. Observational studies involving the use of vasopressin infusion rates below 0.1 units per minute in patients in vasodilatory shock have repeatedly shown improved short-term blood pressure responses.However, vasopressin infusion may also decrease blood flow in the heart, kidneys, and intestine.Interestingly, despite the widespread use of vasopressin in clinical practice, only 2 small randomized trials have evaluated its use in patients in septic shock. Vasopressin increased blood pressure, decreased catecholamine requirements, and improved renal function as compared with a control medication. However, the trials were only powered to evaluate mortality, organ dysfunction, or safety.

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Chapter 9

https://www.primescholars.com/author/dalamagka-maria-59223Perspective - (2024) Volume 7, Issue 2Sohag University

Dementia vs. Alzheimer

Maria Dalamagka

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The process of aging will find our short-term memory and ability to process new information “not what it used to be.” This is the cognitive equivalent of creaky knees, an inconvenient reminder that we’re getting older. Dementia, though, is something different. With dementia, multiple areas of thinking are compromised and the deficits are likely to get worse. By definition, dementia means memory and other cognitive areas deteriorate to the point that everyday tasks and decisions become difficult and sometimes impossible. The causes of dementia are many, but in this country, Alzheimer’s disease is responsible for between 60% and 80% of dementia cases. Are there ways to avoid Alzheimer’s disease? Not according to the National Institutes of Health Conference on preventing Alzheimer’s disease and cognitive decline. Physically active people lower their risk for developing dementia and are more likely to stay mentally active. Too little sleep can affect memory. Six hours may be the minimum needed, although researchers testing college students found those who had eight hours were better able to learn new skills. Staying within a normal weight range lowers the risk for illnesses such as diabetes, hypertension, metabolic syndrome and stroke, which can compromise the brain to varying degrees. Factors such as medication side effects, vitamin deficiencies, depression or chronic conditions that could be better managed to become as mentally sharp as possible.