case of intraoperative bradycardia and brief asystole, which was in fact an ictal bradycardia, visualized in the intraoperative electroencephalogram (ECoG) recordings. By convention, anesthesiologists consider seizures as an etiology in intraoperative tachycardia scenarios. It is important to identify ictal bradycardia as a potential harbinger of lethal rhythms, such as asystole; this may lead to sudden unexpected death in epilepsy patients (SUDEP) presenting for surgery.[2]

Methodology/Description: A 30-year-old male patient diagnosed with mesial temporal sclerosis of right temporal lobe presenting for right anterior temporal lobectomy and hippocampectomy had brief period of bradycardia, asystole lasting less than 30 seconds, revived with CPR. Concomitantly the electrophysiologist reported ictal activity on the ECoG. Immediate intravenous administration of inj. thiopentone 100 mg resulted in cessation of the electrographic seizures with simultaneous termination of bradycardia with heart rate settling back to the baseline.

Conclusion: The search of literature proved that there are no reported cases of intraoperative ictal bradycardia being suspected as a cause for intraoperative bradycardia. Thus, authors intend to create awareness about this rare phenomenon, which remains undiagnosed and may lead to life-threatening events in intraoperative period.

Keywords: intraoperative, seizures, bradycardia

References

1. Marshall DW, Westmoreland BF, Sharbrough FW. Ictal tachycardia during temporal lobe seizures. Mayo Clin Proc 1983;58(7):443–446
2. Oppenheimer SM, Cechetto DF, Hachinski VC. Cerebrogenic cardiac arrhythmias. Cerebral electrocardiographic influences and their role in sudden death. Arch Neurol 1990; 47(5):513–519

A019 Utility and Predictive Value of CHIDA Score in Pediatric Traumatic Brain Injury: A Pilot Study

Ruchi Jain,[1] Hemangi Karnik,[1] Dipti Kotwani[1]
[1]*Department of Anaesthesiology, Lokmanya Tilak Municipal Medical College and General Hospital, Mumbai, Maharashtra, India*

Introduction: The appropriate initial care of children with complicated mild traumatic brain injury (mTBI, Glasgow Coma Scale [GCS] scores of 13 to 15 and intracranial injury on CT) remains unclear. ICU observation detects early neurological worsening but it increases costs. The Children's Intracranial Injury Decision Aid (CHIDA) score identifies which children can be safely observed in ward. The goal of this study is to assess the utility of CHIDA score to predict the need for ICU admission in children with complicated mTBI.

Methodology/Description: This prospective observational study, following ethics committee approval, included children < 18 years of age admitted to trauma ICU from July to September 2017 with mTBI. Patients with trivial trauma, penetrating TBI, GCS < 13 were excluded. CHIDA score was calculated. The primary study outcome was the composite of neurosurgical outcome, intubation for > 24 hours for head trauma or death. Sensitivity, specificity, predictive values, and likelihood ratios were calculated.

Results: Twenty-eight out of 50 patients had CHIDA score > 0 while 25 patients scored > 2. Of these, six patients (12%) experienced the primary outcome including one death. Using a cutoff of score > 0 to admit to ICU had a sensitivity of 100% and a negative predictive value of 100%. Using a cutoff of score > 2 had a sensitivity of 83.33% and a negative predictive value of 96%. Using these cutoffs, ICU admission would have been avoided in 44 and 50% patients, respectively.

Conclusion: CHIDA score seems to be a useful tool but needs to be validated in developing countries in more patients.

Keywords: traumatic brain injury, Pediatric, CHIDA

References

1. Kuppermann N, Holmes JF, Dayan PS, et al; Pediatric Emergency Care Applied Research Network (PECARN). Identification of children at very low risk of clinically-important brain injuries after head trauma: a prospective cohort study. Lancet 2009;374(9696):1160–1170
2. Greenberg JK, Yan Y, Carpenter CR, et al. Development and internal validation of a clinical risk score for treating children with mild head trauma and intracranial injury. JAMA Pediatr 2017;171(4):342–349

A020 Venous Air Embolism in Brain Tumor Surgery Presentation under Anesthesia and Its Association with Postoperative Venous Infarction of the Brain

Amlan Swain,[1] Seelora Sahu,[1] Manish Pai[1]
[1]*Department of Anaesthesia and Critical Care, Tata Main Hospital, Jamshedpur, Jharkhand, India*

Introduction: Venous air embolism (VAE) is a relatively common occurrence in neurosurgical procedures (16–86%), although the proportion of clinically significant VAE is lesser. A higher incidence is seen with sitting position and posterior fossa surgery. However, it is less commonly associated with the occurrence of venous infarct. We hereby present a case of VAE during excision of meningioma and the subsequent development of venous infarct necessitating decompressive hemicraniectomy.

Methodology/Description: Preoperative preparation of the patient was uneventful except for a deranged sugar profile, which required administration of insulin. The intraoperative course was marked by an episode of VAE (sudden severe hypotension, sudden drop in end-tidal carbon dioxide, drop in the saturation) when the neurosurgeons were dissecting the tumor. Such a period of hypotension and hypoxia persisted for barely 3 to 4 minutes and necessitated intensive resuscitation measures. Rest of the surgical and anesthesia course was uneventful, and the patient was shifted to the critical care unit (CCU) for elective ventilation and was subsequently extubated the following day. However, the patient subsequently developed a right parieto-occipital venous infarct requiring a decompressive craniectomy after failure of medical measures to contain the dysfunctional intracranial

compliance. Postdecompression the patient received staged step down intensive care in the CCU, high dependency unit (HDU), and neurosurgery wards and culminated in the discharge of a functional patient with very little neurological sequelae.

Conclusion: A high index of suspicion and a close watch on the anesthesia monitor goes a long way in detecting the occurrence of and ameliorating the effects of VAE during the intraoperative period in neurosurgical patients. Though rare, the embolic event has the potential to cause ischemic injury to the brain which, though commonly arterial, can also lead to an insidious venous infarct.

Keywords: venous air embolism, venous infarct, decompressive hemicraniectomy

References

1. Suri V, Gupta R, Sharma G, Suri K. An unusual cause of ischemic stroke - cerebral air embolism. Ann Indian Acad Neurol 2014;17(1):89–91
2. Giraldo M, Lopera LM, Arango M. Embolismo aéreo venoso en neurocirugía. Rev Colomb Anestesiol 2015;43:40–44

A021 Incidental Detection of Takayasu Arteritis Presenting as Cerebral Aneurysm with SAH: A Case Report

Shailesh Gupta,[1] Sanket Agrawal,[1] Hemant Bhagat,[1] Komal Gandhi,[1] Navneet Singla[1]
[1]*Department of Anesthesia and Critical Care, PGIMER, Chandigarh, India*

Introduction: Twenty percent of Takayasu arteritis cases present with central nervous system (CNS) involvement. When CNS disease is present, it typically manifests as cerebral ischemia or stroke. There are rare reports of intracranial aneurysms in adults with Takayasu arteritis. We report the anesthetic management of a patient with Takayasu arteritis with cerebral aneurysm with subarachnoid hemorrhage (SAH) grade 1.

Methodology/Description: A 16-year-female patient weighing 42 kg posted for emergency craniotomy and clipping for ruptured left internal carotid artery (ICA) communicating segment and ICA bifurcation aneurysm with SAH grade 1. Patient presented with sudden severe headache with vomiting. Preoperatively right upper limb NIBP was persistently above 220/110 mm Hg, so lower limb NIBP reading was noted suspecting coarctation of aorta, which was significantly lower (90/60 mm Hg). On auscultation, grade 2 pansystolic murmur was heard in aortic area. Cardiology consultation was taken before proceeding for emergency clipping with the goal of maintaining cerebral hemodynamics and oxygenation, reducing ICP and maintenance of lower limb perfusion to avoid spinal cord ischemia. Intraoperatively, patient's blood pressure was managed with vasodilators and case went uneventful. Postoperatively patient underwent CTA thorax and was diagnosed with Takayasu arteritis grade 4. Patient was discharged with Glasgow Coma Scale (GCS) of E4M6VT with right hemiplegia (MCA territory infarct).

Conclusion: Coarctation of aorta or Takayasu arteritis should be suspected in patients with multiple intracranial aneurysms. The goal of anesthesia should be focused on minimizing hemodynamic changes to prevent cerebral ischemia and adequate tissue perfusion to prevent peripheral ischemia.

Keywords: Takayasu arteritis, cerebral aneurysm, SAH

References

1. Kerr GS, Hallahan CW, Giordano J, et al. Takayasu arteritis. Ann Intern Med 1994;120(11):919–929
2. Takano K, Sadoshima S, Ibayashi S, Ichiya Y, Fujishima M. Altered cerebral hemodynamics and metabolism in Takayasu's arteritis with neurological deficits. Stroke 1993;24(10):1501–1506

A022 ILMA-Guided Flexible Bronchoscopic Intubation Is Associated with Reduced Cervical Spine Motion when Compared to Video Laryngoscopic Intubation

Amlan Swain,[1] Hemant Bhagat,[2] Vivek Gupta,[3] Seelora Sahu[1]
[1]*Department of Anaesthesia and Critical Care, Tata Main Hospital, Jamshedpur, Jharkhand, India*
[2]*Department of Anaesthesia and Intensive Care, Post Graduate Institute of Medical Education and Research, Chandigarh, Chandigarh, India*
[3]*Department of Radiodiagnosis and Imaging, Post Graduate Institute of Medical Education and Research, Chandigarh, Chandigarh, India*

Introduction: The study of cervical spine mechanics during airway interventions is a gradually evolving realm of scientific study in an attempt to limit cervical spine movement during endotracheal intubation. In a similar pursuit, we compared the cervical spine motion during orotracheal intubation using intubating laryngeal mask airway (ILMA)-guided flexible bronchoscope with intubation aided by video laryngoscope.

Methodology: Forty consenting patients without any history of known cervical spine abnormalities posted for elective neuroradiological procedures in the angiography suite were enrolled in the randomized crossover trial. All patients were randomized to both ILMA-guided flexible bronchoscopic and video laryngoscopic-guided intubation. The cervical spine motion was examined using continuous cinefluoroscopy at the following regions: occipital bone, C1, C2, C3, C4, C5 vertebra, the occiput-C1, C1–C2, C2–C3, and C4–C5 junction. The combined craniocervical motion from occiput to C5 between the two intubation techniques was the primary outcome of the study.

Results: Analysis of combined craniocervical movement from occiput to C5 revealed lesser movement (62% less) by the ILMA flexible bronchoscopy-guided technique as compared with video laryngoscopy-guided intubation (17.55 ± 14.23 vs. 28.95 ± 11.58 degrees, $p < 0.001$). The ILMA flexible bronchoscopy-guided technique produced significantly lesser movement as compared with the video laryngoscope at the occiput-C1 (9.75 ± 8.59 vs. 15.00 ± 10.48 degrees,