Abstract 30

Cervical Spine Surgery: When Not to Extubate Postoperatively

Carlos Mateo Mijares, MD[1]; Doris Debs, ARNP, MSN-BC[2]; Nicole Martin, MD[1]; and Ronald Lee Samson, MD[1]

[1]University of Miami Miller School of Medicine, Miami, FL, and [2]Jackson Health System Perioperative Services, Miami, FL

Case Presentation: A 57-year-old man presented to Jackson Memorial Hospital for elective anterior cervical decompression and fusion (ACDF) and related procedures. The indicated surgery was proposed to alleviate chronic, intractable pain related to cervical spine myelopathy. The past medical history included smoking, depression, and myelopathy of upper and lower extremities with chronic pain syndromes. Past surgical history included knee arthroscopy, lumbar spine surgery, and cervical spine surgery. Past anesthesia history included general endotracheal anesthesia with uneventful direct laryngoscopy and fiberoptic laryngoscopy for difficult airway for lumbar and cervical spine surgery. Medication history included an antidepressant agent. Informed consent had been procured for surgery and informed consent had been discussed for anesthesia. The patient had undergone an uneventful intravenous (IV) induction along with IV dexmedetomidine infusion, which facilitated the fiberoptic laryngoscopy-intubation sequence to secure his airway. Monitoring was conducted for somatosensory evoked potentials (SSEP) and motor evoked potentials (MEP) throughout to warning of surgical encroachment.

The patient was extubated after a leak test of cuff deflation showed exhaled tidal volumes of 600 mL. Ten minutes after extubation, the patient complained of severe pain from his Foley catheter, difficulty breathing when sitting upright, and discomfort from the Miami J Cervical Collar. The patient began to desaturate and the clinical decision was made to reintubate immediately. The patient was placed on dexmedetomidine infusion, the arterial line had to be replaced, and fiberoptic intubation was made, noting hypopharyngeal edema and nonedematous vocal cords.

Conclusion: Hypopharyngeal edema has several etiologic factors, including moderate to severe myelopathy, multilevel corpectomy, lengthy procedure (average, 5 hours), preexisting pulmonary disease, and a history of heavy smoking. This patient's history was positive for all these. The risk of this complication can be reduced by maintaining the endotracheal tube for 24 to 72 hours with sedation while on the mechanical ventilator, and then monitoring the patient in the ICU, with extubation when the patient fully meets extubation criteria.