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Emergency Fiberoptic Intubation in Patient with HOCM

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The patient was a 71 year old female with a past medical history of hypertrophic obstructive cardiomyopathy requiring AICD placement, coronary artery disease with stent placement less than one month prior, and an unknown ejection fraction who presented with a swollen and lacerated tongue in respiratory distress requiring emergent intubation. An awake nasal fiberoptic intubation was planned because of active bleeding and angioedema of the oral cavity. Upon arrival to the operating room the patient was administered supplemental oxygen, all basic asa monitors were placed and the procedure was explained to the patient. On examination of vital signs the patient was found to be tachycardic and in hypertensive crisis with systolic pressures in the 190s. The overall hemodynamic goals for the case were to decrease sympathetic nervous system activity to allow more time for coronary perfusion during diastole without precipitously dropping the aortic diastolic pressure and causing hindrance of coronary perfusion pressures, which could be detrimental for patients with HOCM. These goals were achieved throughout the case by slowly titrating labetalol to bring down systolic pressures below 160 and treating the patient’s tachycardia with intermittent boluses of esmolol. The goal at the beginning of the case was to also prevent any further tachycardia by providing adequate topicalization of the upper airway to prevent stimulation and thus tachycardia. In order to adequately topicalize the upper airway, first three drops of oxymetazoline were applied to both nostrils in order to cause mucosal vasoconstriction, improve visualization during the procedure and help limit bleeding. It was decided not to administer an antisialogogue, which is used to help decrease secretions and improve visualization, because of the risk of tachycardia in this patient. Next, a lidocaine 4% soaked nasal trumpet was placed in the left nasopharynx for several minutes in order to block the branches of the ethmoidal and trigeminal nerves. Then, the nares were then progressively dilated with larger diameter nasal trumpets that were lubricated with 4% lidocaine jelly. Next, the laryngeal mucosal was topicalized via nebulization with 4 mL of 4% lidocaine. A standard breathing treatment nebulizer face mask was placed on the patient and as she was instructed to inhale the vapor by taking deep breaths.

Then, sedation was initiated with a dexmetomidine infusion at a rate of 1mcg/kg/hr. Midazolam was administered intermittently for further anxiolysis. It was decided that no opiate would be administered until after a secure airway was obtained in order to avoid any possible apneic episodes.

For the nasal intubation, a small endotracheal tube, size 7 mm, was chosen. Prior to insertion the tube was soaked in warm saline, and lubricated with lidocaine jelly in order to soften the tube.

For the procedure first the bronchoscope was inserted into the left nare and was passed carefully through the nasal passages through the posterior pharynx until the tracheal inlet was visualized. Next the scope was passed through the vocal cords to the carina and the ETT was passed over the
scope and its position confirmed. Endotracheal placement was then confirmed with end-tidal carbon dioxide monitor reading and auscultation of breath sounds. After confirmation, propofol and fentanyl were slowly administered to the patient intravenously so as to not drastically drop the blood pressure. Then an arterial line was immediately inserted to closely monitor the patient’s blood pressure. The patient was then swiftly transported to the ICU for further care.