Airway Management in Postoperative Carotid Endarterectomy Patients

This large retrospective study describes airway management strategies in patients who develop neck hematoma.

Postoperative wound hematoma is a potentially lethal complication of carotid endarterectomy (CEA). The hematoma can rapidly distort airway anatomy, making tracheal intubation difficult and ultimately causing fatal airway obstruction. Post-CEA patients might develop airway emergencies related to hematoma formation either in the hospital or after discharge.

In a retrospective study of 3225 patients who underwent CEA during a 10-year period at a single institution, researchers identified 44 patients (1.2%) who required neck exploration for hematoma. Of these patients, 2 developed the hematoma before postoperative extubation, and the remaining 42 required reintubation. Fiber-optic tracheal intubation was the initial method attempted in 20 patients and was successful in 15 (75%). All five patients with failed fiber-optic intubation were successfully intubated via direct laryngoscopy (DL), either before or after induction of general anesthesia. DL was the initial management strategy in 22 patients and was successful in 5 of 7 patients (71%) before induction of general anesthesia and in 13 of 15 patients (87%) after induction. Among the four patients in whom DL initially failed, emergent hematoma decompression facilitated a second attempt at intubation via DL in three, and successful bedside tracheostomy was performed in one.

Comment: Although the authors did not assess the anesthesiologists’ reasons for choosing initial methods of airway management, most likely the location, severity, and progression of the hematoma strongly influenced the decision. This study’s retrospective design and lack of standardized clinical decision making prevent direct comparison or formal evaluation of airway techniques. Nevertheless, these findings support our current thinking about this challenging population. Most patients can be managed successfully using a stepwise approach, beginning with awake fiber-optic intubation if time permits. If this fails, laryngoscopy, with either a direct or video laryngoscope, is a reliable backup. If glottic visualization is not possible, decompression of the hematoma should be strongly considered, with preparation for concomitant surgical airway management in case laryngoscopy is unsuccessful.

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