Near-obstructive vallecular cyst

Neeraj Kumar, MD · Abhyuday Kumar, MD · Amarjeet Kumar, MD ·
Prakash K. Dubey, MD · Bhartendu Bharti, MS

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An otherwise healthy 16-yr-old male (whose parents consented to this report) presented for excision of a large right vallecular cyst. He had a history of pain on deglutination, hoarseness, and weight loss over the last six months. Airway examination was otherwise normal except for the vallecular cyst, that was made visible during “EEEEEE” phonation during tongue protrusion (Figure A). Nasendoscopy revealed a large cystic mass arising from the right side of the vallecula (eVideo 1, available as Electronic Supplementary Material). A computed tomography scan of the neck showed an approximately $4.0 \times 3.7 \times 2.0$ cm well-defined cystic lesion arising from the right vallecula, extending into the oropharynx, and abutting the posterior mucosal surface of the oropharynx (Figure B).

Awake intubation with a nasal flexible bronchoscope (FB) after bilateral ultrasound-guided superior laryngeal nerve block and lidocaine nebulization was planned followed by general anesthesia (GA). Following preoxygenation, the FB was inserted via the left nostril, which revealed almost no space for navigation around the cyst. During “EEEEEE” phonation and tongue protrusion, however, the gap between the cyst and the posterior pharyngeal wall gave a clear view into the glottis. The FB was advanced, allowing the trachea to be intubated with a 7.0 endotracheal tube. The cyst was then excised, after which induction of GA proceeded uneventfully.

Airway management during excision of a nearly completely obstructive supraglottic mass can be challenging. Large vallecular cysts not only obstruct the posterior pharyngeal inlet but also impair visualization of the vocal cords. There is a paucity of literature on recommendations for optimal airway management in such a situation, with prior reports having described using rigid and flexible bronchoscopy, a stylet, a bougie, transtracheal jet ventilation, and the McCoy laryngoscope.^{1,2} Our case was unique as the cyst was abutting the posterior pharyngeal wall, obscuring vision of the glottis. We planned to keep the patient awake until intubation was accomplished with the intent of obtaining active help from the patient to facilitate the intubation. Protrusion of the tongue and prolonged vowel pronunciation (i.e., “EEEEEE” by the patient) shifted the cyst away from the posterior pharyngeal wall, enabling a clear view of the vocal cords and uninterrupted airflow from the larynx to the lips. We recommend nasendoscopy prior to surgery to better assess and plan for such a case.

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N. Kumar, MD (✉) · A. Kumar, MD
Department of Trauma & Emergency, All India Institute of
Medical Sciences, Patna, India
e-mail: drneerajk@aiimspatna.org

A. Kumar, MD
Department of Anesthesiology, All India Institute of Medical
Sciences, Patna, India

P. K. Dubey, MD
Department of Anesthesiology, Indira Gandhi Institute of
Medical Sciences, Patna, India

B. Bharti, MS
Department of Otorhinolaryngology, All India Institute of
Medical Sciences, Patna, India

FIGURE A) Image of a right-sided vallecular cyst in a 16-yr-old male during “EEEEEE” phonation with tongue protrusion. B) Computed tomography scan of the neck shows the vallecular cyst abutting the posterior surface of oropharynx. The cyst was also seen during flexible nasosendoscopy (eVideo 1, available as electronic supplemental material)

Conflicts of interest None declared.

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