Management of Pediatric Laryngotracheal Trauma

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Abstract

To summarize and describe the clinical presentations, diagnostic approaches, and airway management techniques in children with laryngotracheal (LT) trauma. Methods: We retrospectively reviewed clinical data related to LT trauma diagnosed and treated at XXX Children's Hospital between January 2013 and July 2018. Disease diagnosis, treatment, management, and outcomes were detailed. Results: A total of 13 cases were enrolled, with an average age 6 years, 9 months. There were seven cases of penetrating LT trauma, of which four cases were injured by knife stabbings and three by dog bites. Tracheostomy was performed for two of these patients, and one with persistent left vocal cord paralysis. The six cases of blunt LT trauma were caused by knocking on hard objects. Two of these six patients underwent tracheostomy. One case had a dislocation of the cricoarytenoid joint and underwent a closed reduction surgery. In all cases, voice, airway, and swallowing outcomes were graded as good, except for one patient who had residual paralysis of the vocal cords. Conclusion: We have summarized a large series of pediatric LT trauma cases. In our experience, examinations by flexible fiberoptic laryngoscopy and computed tomography imaging can play important roles in the diagnostic approach to LT trauma. In addition, the airway should be kept safe and, if necessary, opened by tracheal intubation or tracheotomy. We have proposed our own recommendations for managing pediatric LT trauma cases in order to inform the development of standardized clinical guidelines.

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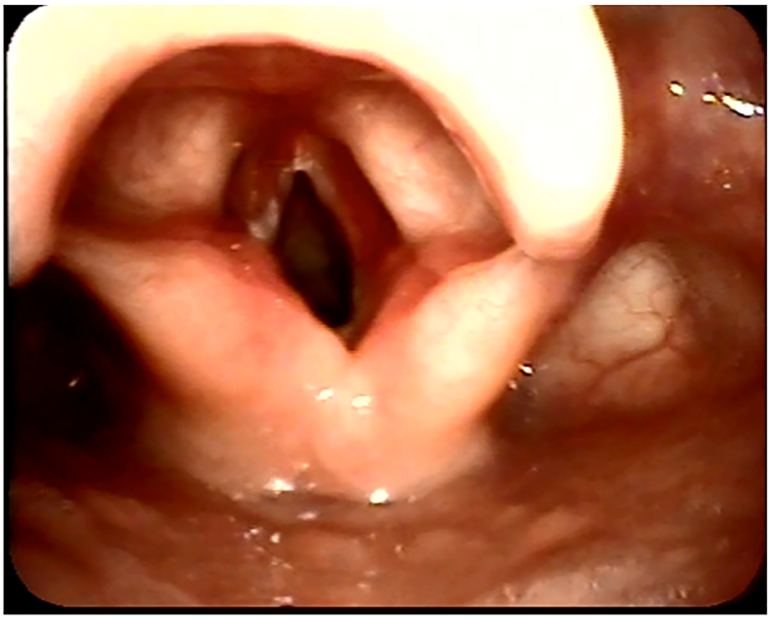

Figure 1. The left arytenoid cartilage dislocation, the bilateral vocal cords congested, the left vocal cord fixation

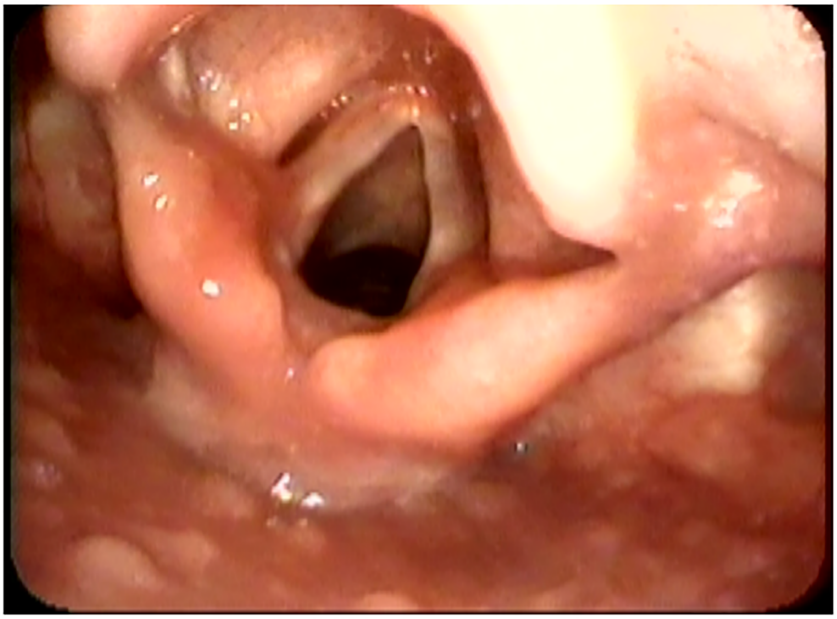

Figure 2. Two months after the cricoarytenoid joint closed reduction, the vocal cords were symmetrical

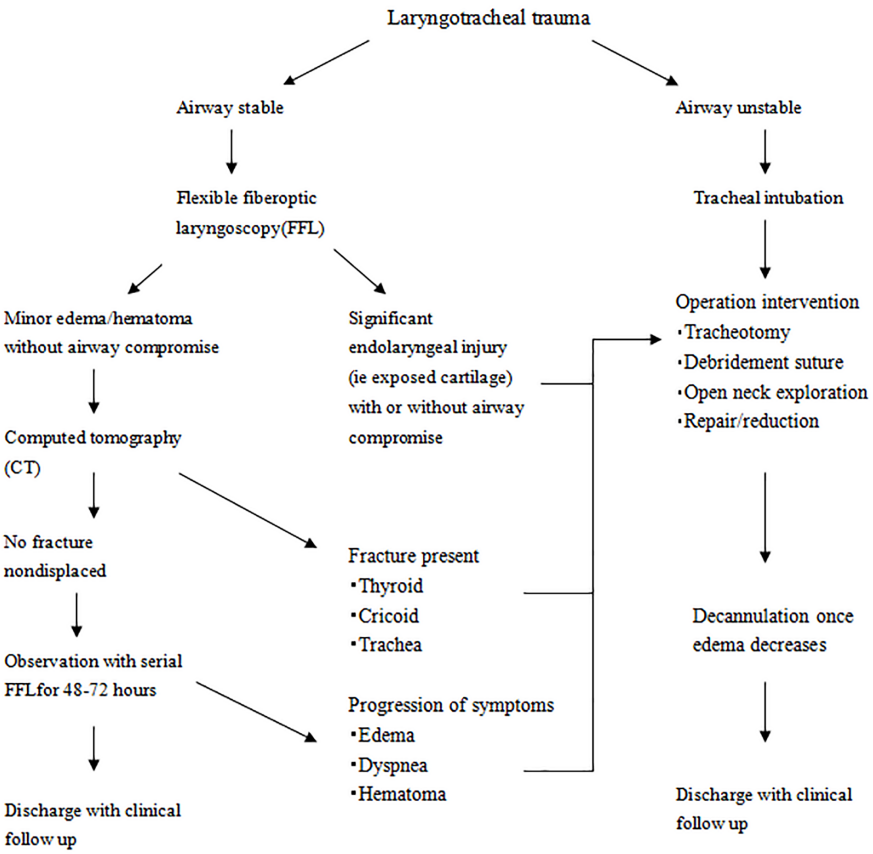

Figure 3. Proposed management strategy for laryngotracheal trauma in children

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