

GİRİŞ

Çocuklarda larinks hastalıkları denince akla daha çok konjenital hastalıkları gelmektedir. Çocuk larinksi erişkinden farklı olarak daha yukarıda yerleşmiştir. Yenidoğanlarda yutma sırasında epiglot uvula düzeyine çıkarak solunum ve beslenme yollarının tam ayrımını sağlamaktadır. Böylece infantlar emme sırasında burundan nefes alabilirler. Larineal gelişim gestasyonun 4-10. haftaları arasında olmaktadır. Sindirim ve hava yolunun ayrılmasında kavşak noktası olan larinksin hastalıkları çocuklarda solunum sıkıntısı, disfoni veya aspirasyon şikayetleri ile semptom verir (1). Erişkinin aksine çocuklarda laringeal hava yolunun en dar kısmı subglottik bölge olup term infantta 4 mm, preterm bebeklerde 3 mm çapındadır. Bu nedenle bölgede en ufak bir obstrüksiyon solunum sıkıntısına yol açar. Bu bölümde pediatrik laringeal hastalıklar başlıklar halinde verilmiştir.

Laringomalazi

Laringomalazi stridor ile semptom veren, larinksin en sık konjenital hastalığıdır. Doğumdan birkaç hafta sonra semptom vermeye başlar. Dikkatli izlem gerekir ve kendini sınırlayan bir hastalıktır. Yeme ya da solunum problemlerine yol açmadığı sürece cerrahi gerektirmez. Etyolojisi net değildir ve multifaktöriyel olduğu düşünülmektedir (2).

Laringomalazi çocuklarda inspiratuvar stridora sebep olan en sık hastalıktır ve vakaların %

60-70'inden sorumludur. Supraglottik dokular inspirasyon esnasında glottik bölgeye sarkarak daralmaya sebep olurlar ve yüksek perdeli bir inspiratuvar ses oluşur. Yaşamın 4-8. aylarında en kötü halini alır. Ağlamak, efor artışı, üst solunum yolu enfeksiyonu ve sırtüstü yatmak stridoru artırır. Hafif ve orta dereceli vakalarda uyku sırasında stridor kaybolabilir. Ciddi vakalarda hipoksi, beslenme problemleri ve aspirasyon görülür. Kor pulmonale gelişebilir (3).

Laringeal kıkırdağın gelişim problemi, laringomalazi etyolojisinde düşünülmüştür ve kanıtlanmıştır. Histopatolojik olarak ariepiglottik foldların glottise oranı normalden küçük bulunmuştur. Kıkırdağların normalden daha immatür ve elastik olması fikri ise normal fibro-elastik kıkırdağı olan semptomatik çocukların gösterilmesiyle geri planda kalmıştır (4). Son olarak yutma ve solunum ile ilgili beyin sapı iletim yollarının immatüritesi üzerine yoğunlaşmış ve bazı fizyolojik çalışmalar ile desteklenmiştir (3).

Nefes alırken hırıltısı olan çocuk hastada tipik hikaye ile bir ön tanı konabilir. Hikayede hırıltının doğumda olmadığı, sonradan başladığı, ağlamak, sırtüstü yatmak ve hareket ile arttığı öğrenilebilir. Kesin tanı fleksible fiberoptik laringoskopi ile uygulayan kişinin tecrübesi de önemli olmak üzere konur. Birkaç inspiryum sırasında larinks gözlenir. Glottisin tam görülmesine engel olan kısa ariepiglottik fold, ödemli aritenodiler, omega epiglot izlenir. İnspirasyon sırasında bu yapı-

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Kaynakça

1. Lusk RP, (2003) *Congenital Anomalies of the Larynx*, S.J. J.B., et al., Editors *Ballenger's Otorhinolaryngology Head and Neck Surgery* içinde, p. 1048 Ontario BC Decker.
2. Walner DL, Neumann DB, The Classification of Laryngomalacia. 2017.
3. Thompson DM, Abnormal sensorimotor integrative function of the larynx in congenital laryngomalacia: a new theory of etiology. *The Laryngoscope*, 2007. 117(S114): p. 1-33.
4. Chandra RK, Gerber ME, Holinger LD, Histological insight into the pathogenesis of severe laryngomalacia. *International journal of pediatric otorhinolaryngology*, 2001. 61(1): p. 31-38.
5. Thompson DM, Laryngomalacia: factors that influence disease severity and outcomes of management. *Current opinion in otolaryngology & head and neck surgery*, 2010. 18(6): p. 564-570.
6. Suskind DL, Thompson DM, Gulati M, et al., Improved infant swallowing after gastroesophageal reflux disease treatment: a function of improved laryngeal sensation? *The Laryngoscope*, 2006. 116(8): p. 1397-1403.
7. Wright CT, Goudy SL, Congenital laryngomalacia: symptom duration and need for surgical intervention. *Annals of Otolaryngology, Rhinology & Laryngology*, 2012. 121(1): p. 57-60.
8. Thorne MC, Garetz SL, Laryngomalacia: review and summary of current clinical practice in 2015. *Paediatric respiratory reviews*, 2016. 17: p. 3-8.
9. Holinger LD, Konior RJ, Surgical management of severe laryngomalacia. *The Laryngoscope*, 1989. 99(2): p. 136-142.
10. Richter GT, Thompson DM, The surgical management of laryngomalacia. *Otolaryngologic Clinics of North America*, 2008. 41(5): p. 837-864.
11. Reddy DK, Matt BH, Unilateral vs bilateral supraglottoplasty for severe laryngomalacia in children. *Archives of otolaryngology-head & neck surgery*, 2001. 127(6): p. 694-699.
12. Preciado D, Zalzal G, A systematic review of supraglottoplasty outcomes. *Archives of otolaryngology-head & neck surgery*, 2012. 138(8): p. 718-721.
13. Denoyelle F, Mondain M, Grésillon N, et al., Failures and complications of supraglottoplasty in children. *Archives of otolaryngology-head & neck surgery*, 2003. 129(10): p. 1077-1080.
14. Faria J, Behar P, Medical and surgical management of congenital laryngomalacia: a case-control study. *Otolaryngology-Head and Neck Surgery*, 2014. 151(5): p. 845-851.
15. Essouri S, Nicot F, Clément A, et al., Noninvasive positive pressure ventilation in infants with upper airway obstruction: comparison of continuous and bilevel positive pressure. *Intensive care medicine*, 2005. 31(4): p. 574-580.
16. Mahadevan M, Barber C, Salkeld L, et al., Pediatric tracheotomy: 17 year review. *International journal of pediatric otorhinolaryngology*, 2007. 71(12): p. 1829-1835.
17. Tarin TT, Martinez JA, Shapiro NL, Familial bilateral abductor vocal cord paralysis. *International journal of pediatric otorhinolaryngology*, 2005. 69(12): p. 1693-1696.
18. de Gaudemar I, Roudaire M, François M, et al., Outcome of laryngeal paralysis in neonates: a long term retrospective study of 113 cases. *International journal of pediatric otorhinolaryngology*, 1996. 34(1-2): p. 101-110.
19. Kuppersmith R, Sulek M, Friedman E, Vocal cord paralysis in infants and children. *Otolaryngologic Clinics of North America*, 2000. 33(1): p. 131-149.
20. Zavala H, Roby BB, Day A, et al., Vincristine-induced vocal cord paresis and paralysis in children. *International journal of pediatric otorhinolaryngology*, 2019. 123: p. 1-4.
21. Brown DJ, (2009) *Pediatric Stridor*, M. R.B., et al., Editors *Pediatric Otolaryngology for the Clinician* içinde, p. 139 New York Humana Press.
22. Truong MT, Messner AH, Kerschner JE, et al., Pediatric vocal fold paralysis after cardiac surgery: rate of recovery and sequelae. *Otolaryngology—Head and Neck Surgery*, 2007. 137(5): p. 780-784.
23. Daya H, Hosni A, Bejar-Solar I, et al., Pediatric vocal fold paralysis: a long-term retrospective study. *Archives of otolaryngology-head & neck surgery*, 2000. 126(1): p. 21-25.
24. Shapiro SZ, Brietzke SE, Shah SV, et al., Injection laryngoplasty in neonates and young children with unilateral vocal fold immobility. *International journal of pediatric otorhinolaryngology*, 2019. 117: p. 127-130.
25. King EF, Blumin JH, Vocal cord paralysis in children. *Current opinion in otolaryngology & head and neck surgery*, 2009. 17(6): p. 483-487.
26. Espinosa MC, Ongkasuwan J, Recurrent laryngeal nerve reinnervation: is this the standard of care for pediatric unilateral vocal cord paralysis? *Current opinion in otolaryngology & head and neck surgery*, 2018. 26(6): p. 431-436.
27. Woo SH, Son Y-I, Lee SH, et al., Comparative analysis on the efficiency of the injection laryngoplasty technique using calcium hydroxyapatite (CaHA): the thyrohyoid approach versus the cricothyroid approach. *Journal of Voice*, 2013. 27(2): p. 236-241.
28. Hoffman MR, Surender K, Chapin WJ, et al., Optimal arytenoid adduction based on quantitative real-time voice analysis. *The Laryngoscope*, 2011. 121(2): p. 339-345.
29. Sipp JA, Kerschner JE, Braune N, et al., Vocal fold medialization in children: injection laryngoplasty, thyroplasty, or nerve reinnervation? *Archives of otolaryngology-head & neck surgery*, 2007. 133(8): p. 767-771.
30. Aynehchi BB, McCoul ED, Sundaram K, Systematic review of laryngeal reinnervation techniques. *Otolaryngology-Head and Neck Surgery*, 2010. 143(6): p. 749-759.
31. Sedaghat S, Tapia M, Fredes F, et al., Endoscopic management of bilateral vocal fold paralysis in newborns and infants. *International journal of pediatric otorhinolaryngology*, 2017. 97: p. 13-17.
32. Holinger LD, Holinger PC, Holinger PH, Etiology of bilateral abductor vocal cord paralysis: a review of 389 cases. *Annals of Otolaryngology, Rhinology & Laryngology*, 1976. 85(4): p. 428-436.
33. Rutter MJ, Hart CK, Alarcon Ad, et al., Endoscopic anterior-posterior cricoid split for pediatric bilateral vocal fold paralysis. *The Laryngoscope*, 2018. 128(1): p. 257-263.

34. Madani S, Bach Á, Matievics V, et al., A new solution for neonatal bilateral vocal cord paralysis: Endoscopic arytenoid abduction lateropexy. *The Laryngoscope*, 2017. 127(7): p. 1608-1614.
35. Cohen SR, Congenital glottic webs in children: a retrospective review of 51 patients. *Annals of Otolaryngology & Laryngology*, 1985. 94(6_suppl): p. 2-16.
36. Nicollas R, Triglia J, The anterior laryngeal webs. *Otolaryngologic Clinics of North America*, 2008. 41(5): p. 877-888.
37. De Trey L, Lambercy K, Monnier P, et al., Management of severe congenital laryngeal webs—a 12 year review. *International journal of pediatric otorhinolaryngology*, 2016. 86: p. 82-86.
38. Yılmaz T, Surgical treatment of glottic web using butterfly mucosal flap technique: Experience on 12 patients. *The Laryngoscope*, 2019. 129(6): p. 1423-1427.
39. Jephson CG, Manunza F, Syed S, et al., Successful treatment of isolated subglottic haemangioma with propranolol alone. *International journal of pediatric otorhinolaryngology*, 2009. 73(12): p. 1821-1823.
40. Hoeve L, Küppers G, Verwoerd C, Management of infantile subglottic hemangioma: laser vaporization, submucous resection, intubation, or intralesional steroids? *International journal of pediatric otorhinolaryngology*, 1997. 42(2): p. 179-186.
41. Kacker A, April M, Ward RF, Use of potassium titanyl phosphate (KTP) laser in management of subglottic hemangiomas. *International journal of pediatric otorhinolaryngology*, 2001. 59(1): p. 15-21.
42. Darrow DH, Management of infantile hemangiomas of the airway. *Otolaryngologic Clinics of North America*, 2018. 51(1): p. 133-146.
43. Pezzettigotta SM, Leboulanger N, Roger G, et al., Laryngeal cleft. *Otolaryngologic Clinics of North America*, 2008. 41(5): p. 913-933.
44. Benjamin B, Inglis A, Minor congenital laryngeal clefts: diagnosis and classification. *Annals of Otolaryngology & Laryngology*, 1989. 98(6): p. 417-420.
45. Truong MT, Messner AH, (2015) *Evaluation and Management Pediatric Airway*, P.W. Flint, et al., Editors *Cummings Otolaryngology - Head and Neck Surgery* içinde, p. 3119-33 Philadelphia Elsevier - Saunders.
46. Chien W, Ashland J, Haver K, et al., Type 1 laryngeal cleft: establishing a functional diagnostic and management algorithm. *International journal of pediatric otorhinolaryngology*, 2006. 70(12): p. 2073-2079.
47. Gergin O, Rahbar R, Adil E, Endoscopic repair of laryngeal cleft. *Operative Techniques in Otolaryngology-Head and Neck Surgery*, 2016. 27(2): p. 100-103.
48. Rahbar R, Chen JL, Rosen RL, et al., Endoscopic repair of laryngeal cleft type I and type II: when and why? *The Laryngoscope*, 2009. 119(9): p. 1797-1802.
49. Nicollas R, Sudre-Levillain I, Roman S, et al., Surgical repair of laryngotracheoesophageal clefts by tracheoesophagoplasty with two overlapping flaps. *Annals of Otolaryngology & Laryngology*, 2006. 115(5): p. 346-349.
50. Pak MW, Woo JKS, van Hasselt CA, Congenital laryngeal cysts: current approach to management. *The Journal of Laryngology & Otolaryngology*, 1996. 110(9): p. 854-856.
51. Lee W-S, Tsai C-SS, Lin C-H, et al., Airway obstruction caused by a congenital epiglottic cyst. *International journal of pediatric otorhinolaryngology*, 2000. 53(3): p. 229-233.
52. Zawadzka-Glos L, Frackiewicz M, Brzewski M, et al., Difficulties in diagnosis of laryngeal cysts in children. *International journal of pediatric otorhinolaryngology*, 2009. 73(12): p. 1729-1731.
53. Xiao Y, Wang J, Ma L, et al., The clinical characteristics of congenital laryngeal saccular cysts. *Acta oto-laryngologica*, 2016. 136(2): p. 168-171.
54. Abramson AL, Zielinski B, Congenital laryngeal saccular cyst of the newborn. *The Laryngoscope*, 1984. 94(12): p. 1580-1582.
55. Smith SP, Berkowitz RG, Phelan PD, Acquired subglottic cysts in infancy. *Archives of otolaryngology-head & neck surgery*, 1994. 120(9): p. 921-924.
56. Derkay CS, Faust RA, (2010) *Recurrent Respiratory Papillomatosis*, P.W. Flint, et al., Editors *Cummings Otolaryngology Head & Neck Surgery* içinde, Philadelphia Elsevier.
57. Schraff S, Derkay CS, Burke B, et al., American Society of Pediatric Otolaryngology members' experience with recurrent respiratory papillomatosis and the use of adjuvant therapy. *Archives of otolaryngology-head & neck surgery*, 2004. 130(9): p. 1039-1042.
58. Reeves WC, Ruparella SS, Swanson KI, et al., National registry for juvenile-onset recurrent respiratory papillomatosis. *Archives of otolaryngology-head & neck surgery*, 2003. 129(9): p. 976-982.
59. Wiatrak BJ, Wiatrak DW, Broker TR, et al., Recurrent respiratory papillomatosis: a longitudinal study comparing severity associated with human papilloma viral types 6 and 11 and other risk factors in a large pediatric population. *The Laryngoscope*, 2004. 114(S104): p. 1-23.
60. Formánek M, Jančátová D, Komínek P, et al., Laryngopharyngeal reflux and herpes simplex virus type 2 are possible risk factors for adult-onset recurrent respiratory papillomatosis (prospective case-control study). *Clinical Otolaryngology*, 2017. 42(3): p. 597-601.
61. Derkay CS, Bluhner AE, Recurrent respiratory papillomatosis: update 2018. *Current opinion in otolaryngology & head and neck surgery*, 2018. 26(6): p. 421-425.
62. Sullivan C, Curtis S, Mouzakes J, Therapeutic use of the HPV vaccine in recurrent respiratory papillomatosis: a case report. *International journal of pediatric otorhinolaryngology*, 2017. 93: p. 103-106.
63. Dion GR, Teng S, Boyd LR, et al., Adjuvant human papillomavirus vaccination for secondary prevention: a systematic review. *JAMA Otolaryngology-Head & Neck Surgery*, 2017. 143(6): p. 614-622.
64. Derkay CS, Faust RA, (2015) *Recurrent Respiratory Papillomatosis*, B.H. PW Flint, VJ Lund, JK Niparko, KT Robbins, JR Thomas, MM Lesperance, Editor *Cummings Otolaryngology Head and Neck Surgery* içinde, p. 3142-58 Philadelphia Saunders Elsevier.
65. Yan Y, Olszewski AE, Hoffman MR, et al., Use of lasers in laryngeal surgery. *Journal of Voice*, 2010. 24(1): p. 102-109.
66. Derkay CS, Bluhner AE, Update on Recurrent Respiratory Papillomatosis. *Otolaryngologic Clinics of North America*, 2019.
67. Pransky SM, Magit AE, Kearns DB, et al., Intralesional cidofovir for recurrent respiratory papillomatosis in

- children. *Archives of otolaryngology-head & neck surgery*, 1999. 125(10): p. 1143-1148.
68. Naiman AN, Ayari S, Nicollas R, et al., Intermediate-term and long-term results after treatment by cidofovir and excision in juvenile laryngeal papillomatosis. *Annals of Otolaryngology, Rhinology & Laryngology*, 2006. 115(9): p. 667-672.
 69. Bedoya A, Glisinski K, Clarke J, et al., Systemic bevacizumab for recurrent respiratory papillomatosis: a single center experience of two cases. *The American journal of case reports*, 2017. 18: p. 842.
 70. Zur KB, Fox E, Bevacizumab chemotherapy for management of pulmonary and laryngotracheal papillomatosis in a child. *The Laryngoscope*, 2017. 127(7): p. 1538-1542.
 71. Zalzal GH, R.T. C, (2015) *Glottic and Subglottic Stenosis*, P.W. Flint, et al., Editors *Cummings Otolaryngology - Head and Neck Surgery* içinde, p. 3158-71 Philadelphia Saunders Elsevier.
 72. Jefferson ND, Cohen AP, Rutter MJ. *Subglottic stenosis*. in *Seminars in pediatric surgery*. 2016: Elsevier.
 73. Myer III CM, O'Connor DM, Cotton RT, Proposed grading system for subglottic stenosis based on endotracheal tube sizes. *Annals of Otolaryngology, Rhinology & Laryngology*, 1994. 103(4): p. 319-323.
 74. Cotton R, Management of subglottic stenosis in infancy and childhood: review of a consecutive series of cases managed by surgical reconstruction. *Annals of Otolaryngology, Rhinology & Laryngology*, 1978. 87(5): p. 649-657.
 75. Schweiger C, Marostica PC, Smith M, et al., Incidence of post-intubation subglottic stenosis in children: prospective study. *The Journal of Laryngology & Otolaryngology*, 2013. 127(4): p. 399-403.
 76. Fiorelli A, Scaramuzzi R, Minerva I, et al., Three-dimensional (3D) Printed Model to Plan the Endoscopic Treatment of Upper Airway Stenosis. *Journal of bronchology & interventional pulmonology*, 2018. 25(4): p. 349-354.
 77. Hautefort C, Teissier N, Viala P, et al., Balloon dilation laryngoplasty for subglottic stenosis in children: eight years' experience. *Archives of otolaryngology-head & neck surgery*, 2012. 138(3): p. 235-240.
 78. Rodríguez H, Cuestas G, Botto H, et al., Post-intubation subglottic stenosis in children. Diagnosis, treatment and prevention of moderate and severe stenosis. *Acta Otorinolaringologica (English Edition)*, 2013. 64(5): p. 339-344.
 79. Avelino M, Maunsell R, Wastowski IJ, Predicting outcomes of balloon laryngoplasty in children with subglottic stenosis. *International journal of pediatric otorhinolaryngology*, 2015. 79(4): p. 532-536.
 80. Chen C, Ni W-h, Xu Z-m, The outcomes of endoscopic management in young children with subglottic stenosis. *International journal of pediatric otorhinolaryngology*, 2017. 99: p. 141-145.
 81. Cotton RT, Myer CM, Bratcher GO, et al., Anterior cricoid split, 1977-1987: evolution of a technique. *Archives of otolaryngology-head & neck surgery*, 1988. 114(11): p. 1300-1302.
 82. Hartley BE, Willging JP, Hartnick CJ, et al., Surgery for pediatric subglottic stenosis: disease-specific outcomes. *Annals of Otolaryngology, Rhinology & Laryngology*, 2001. 110(12): p. 1109-1113.
 83. Triglia J, Nicollas R, Roman S, Management of subglottic stenosis in infancy and childhood. *European Archives of Oto-Rhino-Laryngology*, 2000. 257(7): p. 382-385.
 84. Thottam PJ, Georg M, Simons JB, et al., Structured care to improve outcomes in primary single stage laryngotracheal reconstruction. *International journal of pediatric otorhinolaryngology*, 2018. 114: p. 71-75.
 85. Weidenbecher M, Amann K, Iro H, Laryngotracheal growth following cricotracheal resection combined with laminotomy: An experimental study on rabbits. *Annals of Otolaryngology, Rhinology & Laryngology*, 2003. 112(8): p. 697-703.
 86. George M, Ikonomidis C, Jaquet Y, et al., Partial cricotracheal resection in children: potential pitfalls and avoidance of complications. *Otolaryngology—Head and Neck Surgery*, 2009. 141(2): p. 225-231.
 87. Aydinyan KK, Day JD, Troiano GM, et al., Non-invasive methods to maintain cervical spine position after pediatric tracheal resections. *International journal of pediatric otorhinolaryngology*, 2017. 98: p. 121-125.
 88. Kim IA, Shapiro N, Bhattacharyya N, The national cost burden of bronchial foreign body aspiration in children. *The Laryngoscope*, 2015. 125(5): p. 1221-1224.
 89. Sidell DR, Kim IA, Coker TR, et al., Food choking hazards in children. *International journal of pediatric otorhinolaryngology*, 2013. 77(12): p. 1940-1946.
 90. Ezer SS, Oguzkurt P, Ince E, et al., Foreign body aspiration in children: analysis of diagnostic criteria and accurate time for bronchoscopy. *Pediatric emergency care*, 2011. 27(8): p. 723-726.
 91. Sink JR, Kitsko DJ, Georg MW, et al., Predictors of foreign body aspiration in children. *Otolaryngology--Head and Neck Surgery*, 2016. 155(3): p. 501-507.
 92. Rodríguez H, Passali GC, Gregori D, et al., Management of foreign bodies in the airway and oesophagus. *International journal of pediatric otorhinolaryngology*, 2012. 76: p. S84-S91.
 93. Akelma AZ, Cizmeci MN, Kanburoglu MK, et al., An overlooked cause of cough in children: foreign body aspiration. *The Journal of pediatrics*, 2013. 163(1): p. 292-293.
 94. Yalçın Ş, Karnak I, Ciftci AO, et al., Foreign body ingestion in children: an analysis of pediatric surgical practice. *Pediatric surgery international*, 2007. 23(8): p. 755-761.
 95. Cohen S, Avital A, Godfrey S, et al., Suspected foreign body inhalation in children: what are the indications for bronchoscopy? *The Journal of pediatrics*, 2009. 155(2): p. 276-280.
 96. Fidkowski CW, Zheng H, Firth PG, The anesthetic considerations of tracheobronchial foreign bodies in children: a literature review of 12,979 cases. *Anesthesia & Analgesia*, 2010. 111(4): p. 1016-1025.
 97. Schoem SR, Rosbe KW, Bearely S, (2015) *Aerodigestive Foreign Bodies and Caustic Ingestions*, P.W. Flint, et al., Editors *Cummings Otolaryngology Head and Neck Surgery* içinde, p. 3184-95 Philadelphia Saunders Elsevier.
 98. van Schuppen J, van Rijn R, (2018) *Foreign Body Aspiration in Children: Evidence-Based Emergency Imaging*, A. Kelly, Editor *Evidence-Based Emergency Imaging* içinde, p. 605-614 Springer.

99. Manach Y, Pierrot S, Couloigner V, et al., Diagnostic performance of multidetector computed tomography for foreign body aspiration in children. *International journal of pediatric otorhinolaryngology*, 2013. 77(5): p. 808-812.
100. Lando T, Cahill A, Elden L, Distal airway foreign bodies: importance of a stepwise approach, knowledge of equipment and utilization of other services' expertise. *International journal of pediatric otorhinolaryngology*, 2011. 75(7): p. 968-972.
101. Zaytoun GM, Rouadi PW, Baki DHA, Endoscopic management of foreign bodies in the tracheobronchial tree: predictive factors for complications. *Otolaryngology—Head and Neck Surgery*, 2000. 123(3): p. 311-316.