An Infant for whom Nebulizing Muscarinic Antagonist Succeeded in stopping Apnea Attack due to Laryngospasm

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Abstract

A three month-old boy was admitted to our hospital because of repeated apnea attack after cough, which required assist ventilation. Using bronchoscopy, we diagnosed him with laryngospasm. Carbamazepine, which is effective in treating laryngospasm resulting from genetic mutations in SCN4A, proved ineffective because he doesn't have such mutations. We diagnosed as gastroesophageal reflux with 24-hour esophageal pH monitoring, and used a proton pump inhibitor, but it didn't work. After that, he started nebulizing ipratropium bromide, which is a muscarinic antagonist, and it reduced both the intensity and frequency of his laryngospasm. He quit nebulizing ipratropium after a year, and he is free from symptoms now.

It's known that laryngospasm is caused through the reflex arc by stimulation of the vagus nerve, so we thought a muscarinic antagonist was likely to be effective. We would say that nebulizing ipratropium could be effective for laryngospasm and this could prevent unnecessary tracheotomies.

Key words: Laryngospasm, Muscarinic antagonist, Gastroesophageal reflux, Infant