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# Reflux in infants with laryngomalacia: Results of 24-hour double-probe pH monitoring

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## Abstract

Laryngomalacia is the most common cause of stridor in children. Previous studies using barium esophagrams or single-probe esophageal pH testing have indicated that 68% to 80% of infants with laryngomalacia have reflux. A recent study in a large series of pediatric patients has shown that these 2 testing modalities are relatively insensitive in detecting reflux when compared with 24-hour double-probe pH testing. This study was undertaken to determine the incidence and frequency of reflux in children with laryngomalacia by use of 24-hour double-probe pH monitoring. Twenty-four children with endoscopically diagnosed laryngomalacia underwent 24-hour double-probe pH testing. The distal probe was placed in the lower esophagus, and the proximal probe was placed just above the cricopharyngeus immediately posterior to the larynx. All 24 (100%) children had pharyngeal acid exposure as judged by the proximal pH probe. These children had a mean of 15.21 episodes of reflux to the level of the pharynx during the 24-hour study period. In contrast, only 16 (66%) children had abnormal acid exposure as measured by the distal esophageal probe. These results indicate that essentially all children with laryngomalacia have reflux of gastric acid to the pharyngeal level. Multiple authors have documented the detrimental effects of acid and the accompanying pepsin in the larynx and tracheobronchial tree. Persistent laryngeal edema is an almost universal finding in patients with reflux to the pharyngeal level and is a common finding in children with laryngomalacia. In some patients with laryngomalacia, reflux may be the primary cause of their airway compromise, whereas in others it may be a significant cofactor exacerbating a preexisting neurologic or anatomic abnormality.

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