

Keywords: Paediatric laryngotracheal stenosis; Laryngotracheal stenosis; Surgery; Medical treatment; Complications; Nutritional support; Tacrolimus

Introduction

Paediatric laryngotracheal stenosis (PLTS) is a rare congenital or acquired condition characterized by a progressive narrowing of the larynx and trachea. The incidence is approximately 1 in 10,000 live births. The aetiology is multifactorial, including congenital malformations, prolonged intubation, and infections. The clinical presentation is typically characterized by stridor, respiratory distress, and failure to thrive. The management of PLTS is challenging and often requires a multidisciplinary approach involving otolaryngology, paediatrics, and nutrition. This study aims to evaluate the outcomes of surgical treatment for PLTS in a tertiary care centre in South India.

Methodology

A retrospective analysis of 68 children with PLTS who underwent surgical treatment between January 2006 and December 2017. The patients were divided into two groups based on the severity of stenosis: mild to moderate (n=34) and severe (n=34). The surgical approach was tailored to the extent of stenosis, ranging from laser-assisted laryngotracheal reconstruction to total laryngotracheal resection with tracheal reconstruction. The primary outcome was the need for further surgery, and the secondary outcome was the rate of complications. The mean age at surgery was 18 months (range 5.6-48 months). The overall success rate was 88.2%.

Data were collected from the ENT department records and the paediatric surgery database. All procedures were performed by a single surgeon (R.N.S.) with over 10 years of experience in paediatric laryngology. The study was approved by the Institutional Review Board of the Madras ENT Research Foundation. The results of the study are presented in Table 1. The majority of patients (75%) had congenital stenosis, while 25% had acquired stenosis. The most common surgical approach was laser-assisted laryngotracheal reconstruction (Laryngotracheal reconstruction type I), which was performed in 45 patients (66%). The success rate for this approach was 91.1%. In 23 patients (34%), total laryngotracheal resection with tracheal reconstruction was performed, with a success rate of 86.9%. The overall success rate for the study was 88.2%. The most common complications were stridor and respiratory distress, which occurred in 12 patients (17.6%). Nutritional support was required in 15 patients (22.1%). The mean follow-up period was 18 months (range 6-48 months).

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1-3
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PLTS

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12 (17.64%) ... ad ... ac ... c d ... 5 (7.33%),
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c ... ca ... d b ... c ... a ... a d ... a ... a ...
... e ... c a ... ad ... d ...
P ... c d ... d ca a d ac ... ca ... a a a ... a d ...
... a d ... d b ... d ca d ... d a ... ca ... a ... a d ... a b ... a ... a ...
Tab 4 d ... c b ... c ... a ... a ... a ... a ...
a d ... b ... a ... a ... d ... ac ... a a ... cc ...
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Discussion

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a ... ac a ... a ... ca c a ... ca ... e a ...
... ca ... a ... a ... c ...
a ... a ... d ... c ... a ... a ... ca ...
... ad ... a ... d ... a ... a ... ac ... ic ...
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