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**OBJECTIVES:** To analyze the outcome of a new endoscopic approach for the treatment of pediatric subglottic stenosis.

**STUDY DESIGN:** Case series.

**SETTING:** Tertiary care center.

**MATERIAL AND METHODS:** Eighteen pediatric cases of grade II to IV subglottic stenosis (8 congenital and 10 acquired) consecutively treated at our institutions by Endoscopic Anterior Cricoid Split (EACS) and balloon dilation between 2006 and 2010. Treatment protocol encompassed systematic postoperative laryngeal stenting (7 days of intubation or 1 month of Montgomery T-tube in previously tracheotomized patients) and endoscopic controls with possible additional balloon dilation every 15 days for at least 2 months.

**RESULTS:** Patients' ages ranged from 1 to 101 months. Postoperative follow-up ranged from 4 to 45 months (median value $\pm$ SD: 15.3 $\pm$ 11.9). The mean duration of the endoscopic procedure was 35.2 $\pm$ 13.2 min. The number of days spent in PICU during the perioperative period varied between 2 and 15. Four patients (22.2%) needed one and 14 patients (77.7%) required several (from 4 to 7) additional balloon dilations during the postoperative endoscopic controls. No incident was observed during or immediately after EACS. Treatment was efficient in 83% of cases (n=15), with no residual respiratory symptoms and grade 0 to 1 SGS at the end of follow-up.

**CONCLUSION:** EACS is a safe and efficient technique to treat pediatric subglottic stenosis, regardless of their grade and length, provided to associate it with postoperative laryngeal stenting and regular endoscopic follow-up with possible additional balloon dilations. In our teams, it has become the first line treatment for most grades II to IV SGS. Its indications can be extended to congenital stenosis with cartilaginous involvement and to long-lasting acquired stenosis with firm fibrosis.

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