Objectives: Balloon dilation has been suggested as an alternative treatment to open surgical treatment of subglottic stenosis in children. The aim of the present study is to describe long-term outcomes of balloon dilation for acquired subglottic and tracheal stenosis in children.

Study design: Retrospective chart review.

Methods: The medical charts of children who had balloon dilation for subglottic and tracheal stenosis secondary to intubation were reviewed. Data included demographics, relevant history and physical examination, diagnostic work up, and management. Outcomes of balloon dilation were assessed based on improvement in preoperative symptoms, grading of stenosis, complications, and need for additional procedures.

Results: Four children (3 male, 1 female, age range: 6 months – 15 years) underwent balloon dilation for subglottic (3 patients) and tracheal stenosis (1 patient). Patients presented with stridor and increased work of breathing. One patient with subglottic stenosis failed extubation. Duration of intubation ranged from 2 days-3 weeks. Patients with subglottic stenosis became symptomatic 5 days to 6 weeks after extubation. Grade of subglottic stenosis was II in 2 patients and III in one. Subglottic stenosis patients had 2-4 dilations within 3-10 weeks. Patient with tracheal stenosis became symptomatic 6 weeks after extubation. Grade III tracheal stenosis was dilated 3 times in 3 weeks. All patients were asymptomatic during 14 months - 21 months follow-up.

Conclusions: Serial balloon dilation was safe and successful method to manage acquired subglottic stenosis in this group of children. No recurrence was noted in a follow-up more than a year after resolution of symptoms.