

Open Surgical Treatment for Pediatric Subglottic Stenosis

Min-Su Kim, Dong-Wook Kim, Soo-youn An, J.Hun Hah, Tack-Kyun Kwon,
Myung-Whun Sung, Kwang Hyun Kim

Department of Otorhinolaryngology-Head and Neck Surgery, Seoul National University, Seoul, Korea

Objectives

There are endoscopic surgery and open surgery for treating subglottic stenosis. In this study, we will analyze clinical features and results of open surgery compared to endoscopic surgery in pediatric subglottic stenosis patients.

Materials & Methods

This study is a retrospective review of medical records about etiology, anatomical site of lesion, operation method, treatment result, recurrence and complications in pediatric subglottic stenosis patients between January 1989 and December 2007. Total 107 patients who had been treated with endoscopic or open surgery for subglottic stenosis were included. Patients who remained tracheostomy because of underlying disease were excluded.

Results

Endoscopic surgery like bougination in 99 patients and open surgery in 8 patients were performed as an initial treatment. Eighty-two patients (88%) with endoscopic surgery succeeded in decannulation during 0~95.9 months (mean: 24.5 months). Open surgery was performed in 21 patients who failed in decannulation with endoscopic surgery. Severity of stenosis in open surgery group were mean 2.9(\pm 0.7) of Cotton-Myer grade. Stenosis was more severe than endoscopic surgery group with mean grade 1.5(\pm 0.8) (T-test, $p < .05$). Cricoid splitting with rib cartilage graft was performed for 23 patients, and revision surgery with thyro-tracheal end to end anastomosis was needed for 6 of them. Thyro-tracheal end to end anastomosis was performed in 3 patients, and one of them had a revision surgery with rib cartilage graft.

The average 4 times additional endoscopic surgeries were needed for removal of granulation tissue for all open surgery patients. Twenty-two patients (84.6%) with open surgery succeeded in decannulation. There were no specific intra- and postoperative complications.

Conclusions

We performed open surgery for pediatric subglottic stenosis patients with success and safety. Open surgery seems to be the important surgical option and complementary cooperation with endoscopic surgery for treatment of pediatric subglottic stenosis.