INTRODUCTION

Percutaneous dilatational tracheostomy was initially described by Ciaglia et al in 1985. Since that time, its popularity has increased, and it has become the procedure of choice in some institutions. Most studies comparing open versus percutaneous tracheostomy tube placement have shown either no statistical difference or fewer complications using the percutaneous method. At our institution, we have seen numerous cases of subglottic stenosis (SGS) following percutaneous tracheostomy tube placement which have required further intervention. The purpose of this study is to determine decannulation rates and predictive factors following endoscopic repair in patients with SGS resulting from percutaneous tracheostomy tube placement.

METHODS

Patients with SGS following percutaneous tracheostomy tube were included. Patients with SGS due to other etiologies were excluded. All study patients underwent an initial attempt at endoscopic repair as primary treatment. Failed endoscopic repairs were offered open treatment. Objective measures included grade of SGS, length of follow-up, and decannulation status.

RESULTS

A total of 5 patients (4 males, 1 female) met our inclusion criteria with an average age of 38.6 years (range 22-52 years). Four of the 5 patients remain decannulated at this time. One patient with Grade IV SGS remains tracheostomy tube dependent secondary to pulmonary issues requiring aggressive pulmonary toilet; however, his subglottic airway remains widely patent. Three patients with Grade II SGS patients were able to be treated by a single endoscopic dilation. One patient with Grade III SGS ultimately required an open cricotracheal resection with primary anastomosis after undergoing 6 endoscopic dilations. His subglottic airway remains widely patent, and he remains decannulated. Average follow up is 27.8 months (range 3-63 months).

CONCLUSIONS

In our series, SGS due to percutaneous tracheostomy tube placement is often treatable endoscopically. One patient remains tracheostomy tube dependent due to unrelated pulmonary issues. One patient with Grade III SGS ultimately required open cricotracheal resection with primary anastomosis after several endoscopic attempts to treat the stenosis. Based on our series, we recommend initial endoscopic dilation in Grade II/III SGS, reserving open laryngotracheal resection with primary anastomosis in cases unresponsive to the more conservative endoscopic approach.

REFERENCES