
RELATIONSHIP BETWEEN PEAK COUGH FLOW AND IMMEDIATE EFFECT OF ONE-WAY SPEAKING VALVE PLACEMENT ON DYSPHAGIA

Jong Hwa Lee, Seong Uk Hwang

Dong A University College of Medicine, South Korea
e-mail: jhlee08@dau.ac.kr

Background and Aims

With the application of a one-way valve to the cannula, air flows into the lungs through the tracheostomy cannula, bypassing the pharynx. We tried to find out the difference in dysphagia improvement when one-way valve is applied according to the peak cough flow (PCF) value, which is one of the expiratory flow indicators.

Methods

Video fluoroscopic swallowing study was consisted of a total two sessions. All patients underwent a first session before one-way valve application. After initial session, patients cleared residue and penetration & aspiration materials, and then applied one-way valve on tracheostomy tube (T tube). After applying one-way valve on T tube, we measured PCF. After measuring PCF, we examined second session. And then, radiologic review was performed. Before and after one-way valve apply, PCF, penetration-aspiration scale (PAS, 1~8) and functional dysphagia scale (FDS) were measured.

Results

Total thirteen patients were recruited. Seven patients improved with aspiration after one-way valve apply, and six patients had no change before and after one-way valve apply. When compared between two groups, there were no difference at age, tracheostomy duration and FDS. However, the improvement group showed a statistically significantly higher PCF value than the no improvement group.

Conclusion

In patients with high PCF, one-way valves can be actively applied to improve swallowing function. Further studies should be needed to find the applicable PCF cut-off value.

Keywords: peak cough flow, one-way valve