

The change of thyrohyoid muscle thickness in patients with dysphagia

Jihong Cheon^{1*}, Dongyoul Lee¹, Nana Lim¹, Geunsu Lee¹, Dongyoul Lee¹, Younkyung Cho¹, Sunghoon Lee^{1†}

Kwangju Christian Hospital , Department of Rehabilitation Medicine¹

Puropose

A swallowing difficulty can caused by many neuromuscular diseases. The oropharyngeal muscle dysfunction from stroke is one of the most common reasons. In pharyngeal phase, once the suprahyoid muscle group contracts, the thyrohyoid muscle gets the power and raises up the cricothyroid complex followed by esophageal opening. The aim of this study is to find out the difference of thyrohyoid muscle thickness between normal people and patients with dysphagia from stroke.

Materials and Method

We conducted a pilot study of 20 patients with dysphagia from stroke so that we can compare the mean value of the thyrohyoid muscle thickness with normal people. The group was divided into A and B according to the duration of dysphagia, as more than 6months and less than 6months. We checked the age, sex, height, BMI and VFSS score. While performing ultrasonography, the patient was in supine position and the vertical line from mandibular body tip to hyoid bone was maintained to be perpendicular to the horizontal line from the upper margin of the thyroid cartilage to the hyoid bone. Table-1.

Results

The difference between mean value of muscle thickness was observed in two groups($p < 0.05$). Furthermore the mean values of muscle thickness of group A were slightly lower to normal values(2.83 ± 0.61 in left side and 2.93 ± 0.67 in right side, age of 40~59, $n=62$, p -value < 0.001) which we had studied before.

Conclusion

The thyrohyoid muscle atrophy was found in patient with dysphagia from stroke and it became worse more than 6 months after onset.

Table-1. Thickness of the left and right thyrohyoid muscles in Group A and Group B.

Muscle thickness	Group A	Group B	p-value
Left	2.74 ± 0.41	2.31 ± 0.36	0.026
Right	2.82 ± 0.36	2.39 ± 0.51	0.043