THE PHARYNGEAL WALL MOVEMENT DURING SPEECH

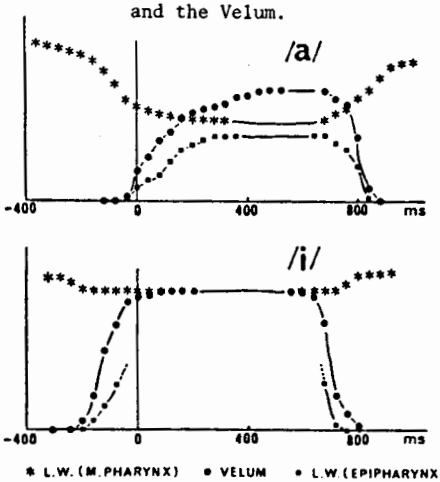
Seiji Niimi, Research Institute of Logopedics and Phoniatrics, University of Tokyo, Japan

When we consider that the pharyngeal cavity behaves as a resonator, the movement of the cavity wall, which may act to shape the resonating system, is important and should be investigated as well as the coupling effect of the two resonators: nasal and oral cavities. In this report, the two different levels of the pharyngeal wall (the lateral walls of the epipharynx and the mesopharynx) are studied by means of endoscopy and electromyography.

Results and discussion

The figure shows the displacement patterns of the lateral pharyngeal walls at the two different levels for the Japanese vowels /a/ and /i/. The mesopharyngeal wall moves medially (downward in the figure) to a larger extent for /a/ than for /i/. On the other hand, the medial excursion (upward in the figure) of the epipharyngeal wall is smaller for /a/ than for /i/. This vowel dependent tendency was also observed in the case of CVN syllable strings. It has been reported previously by the author that the movement of the lateral wall of the epipharynx and the vertical movement of the velum are identical in their patterns and caused by the levator veli palatini muscle (Niimi and Bell-Berti 1977).

Displacement of the Pharyngeal Walls and the Velum.



In this paper I demonstrate that the superior constrictor muscle of the pharynx is responsible for the lateral movement of the wall of the mesopharynx, and this muscle shows the vowel dependent activities.

Reference

Niimi, S.A. and F. Bell-Berti (1977): "An EMG - air pressure - movement study of velopharyngeal closure in speech", 3rd International Congress on Cleft Palate and Related Craniofacial Anomalies, 1977, Toronto, Canada.