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Title: Fiber composition in the ligaments of the laryngeal organs associated with age-related changes

Background and Purpose: The function of “feeding and swallowing” is essential for eating. However, it is known that its function declines with aging, It is expected that assessment and improvement of feeding and swallowing functions and prevention of aspiration in elderly people will become increasingly important in the future. Therefore, this study aims to clarify the effects of age-related changes in the laryngeal ligaments by quantifying the collagen fibers and elastic fibers in the laryngeal ligaments of elderly individuals and analyzing and comparing their microstructures.

Research Outline: The specimens used are cadavers for anatomical research preserved at Ohu University for the purpose of human anatomy education and research.

From each cadaver, tissue samples containing the ligaments of the laryngeal organs are collected and preserved in ethanol solution. Tissue sections are prepared from the tissue pieces, and selectively stained to differentiate the ligament fibers. Subsequently, tissue morphology measurements are performed using an image analysis system, and structural analysis is conducted.

Future Prospects: One cause of age-related decline in swallowing function is the lowering of the position of the larynx. By analyzing the composition of the fibrous components of the laryngeal ligaments of cadavers for autopsy research, divided into younger and older groups, it is thought that this will help to clarify the relationship with the above causes.

By helping to identify the causes of aspiration that occurs due to a decline in feeding and swallowing function caused by age-related changes, it is hoped that the joy of eating can be restored to some extent and lead to an improvement in "quality of life."

Reference

Histological observations of age-related changes in the epiglottis associated with decreased deglutition function in older adults *Anatomy & Cell Biology* 56:374-381 2023