

Analyses of muscle spindles in suprahyoid muscles of the humans

Daniele Saverino¹, Amleto De Santanna², Erik Cattrysse³, Marco Testa⁴

¹ Department of Experimental Medicine, Section of Human Anatomy

² Section of Histology, University of Genova, Italy

³ Department of Experimental Anatomy, Vrije Universiteit Brussel, Brussels, Belgium

⁴ Campus Universitario di Savona, SPES S.c.p.A, University of Genova, Italy

The fibre composition and occurrence of muscle spindles were studied in the masticatory, the suprahyoid and the infrahyoid muscles of the rat, of the cat, and of other animals. Thus, there is still a gap of the knowledge in man.

Studies on rat show that many muscle spindles, often clustered, are present in the masticatory muscles, except for the lateral pterygoid. In most suprahyoid muscles, these sensory structures are absent. Finally, in the infrahyoid muscles, solitary muscle spindles are found. In addition, other studies suggest that muscle spindles in digastric and mylohyoid muscles in the cat are absent or few.

We observed the absence of spindles in geniohyoideus and stylohyoideus muscles from two donors. Although these are preliminary data, in humans it seems that some unusual aspects to the internal organisation of jaw muscles are present and that each muscle would be considered an entity unto itself. Thus we purpose to extend the analyses of the neuromuscular fuses in human by studying other suprahyoid muscles.

Key words

Muscle spindles; suprahyoid muscles; humans