DIABETOLOGY & METABOLIC SYNDROME

MEETING ABSTRACT Open Access

Assessment of electrical activity in the supra and infra hyoid muscle in individuals with type 2 diabetes mellitus

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Background

It is believed that muscle changes caused by Diabetes mellitus can impact supra and infra-hyoid muscles, reflecting the phonation process. However, there are no studies evaluating the behavior of the extrinsic muscles of the larynx in phonation activities in this population.

Objective

To evaluate the electrical activity of supra and infra-hyoid muscles in individuals with type 2 diabetes mellitus.

Materials and methods

Sample was composed of thirty female adults, aged between 40 and 60 years, distributed in Diabetes group and Control group and they were submitted to a electromyography exam with electromyography MIOTEC® (Rio Grande do Sul, Brazil) connected to a notebook SAMSUMG brand provided the Miotool 200® software, using windowing 32 and gain equal to 2000 for each channel. An electrode reference and three channels connected to active sensors with connection SDS500® by claws were used. The signal analysis was performed with the Miograph 2.0® software. For normalization of the supra-hyoid group (HS) swallowing incomplete maneuver and the infra-hyoid (IH), the tongue retracted technique was used. Then, it was performed the catchment of the muscular electrical activity through the rest moment following by the evaluation during vowel/ε/ vocalization and the usual speech. It had been used the t test to calculate the differences between the averages of electrical activity of the groups evaluated.

Results

There was a reduction in the electrical activity of supra and right and left infra-hyoid muscles during vocalization of the vowel/ε /, normalized by rest moment and reduced electrical activity during normal speech (count 1 to 10) normalized by rest moment only the supra-hyoid muscle in the diabetic group ($p < 0.05$).

Conclusion

Results suggest that diabetes promotes reduction of muscle electrical activity in phonation activities that are detected when they are normalized by rest moment.

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