

Enzyme histochemical adaptive response of the medial pterygoid muscle and two heads of the lateral pterygoid muscle to long-term soft diet feeding in growing rabbits

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Abstrak

The aim of the present study was to investigate the histochemical effects of long-term soft diet in the medial pterygoid muscle as well as the two heads of the lateral pterygoid muscles in growing rabbits. Eleven young rabbits were divided into two groups as solid diet (control group; n = 6) or soft diet (soft-diet group; n = 5) groups. After 6 months, muscle fibers from the medial and the two heads of the lateral pterygoid muscles were histochemically defined. In the medial pterygoid muscle, the percentage of the type 1 fiber cross-sectional area to total area was 10.1 ± 2.4 % in the control group and 8.3 ± 3.0 % in the soft-diet group, respectively. In the soft-diet group, there was a trend toward an increase in the number of type 2A fibers, and toward a decrease in the numbers of type 2B fibers in comparison with the controls. In the two heads of the lateral pterygoid muscle, the percentage of the type 1 fiber cross-sectional area to total area was 8.4 ± 7.5 and 3.3 ± 2.7 %, respectively. Compared to that of the control group, the two heads in the soft-diet group showed a trend toward a decrease in the number of type 2A fibers. In addition, type 2B had a tendency to decrease in the number in the inferior head. In conclusion, this study suggests that long-term soft diet leads to adaptations of the pterygoid muscles. Two heads of the lateral pterygoid muscle revealed different adaptation from jaw-closing muscles under soft-diet conditions.