Stretching of the Eye Muscles

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In clinical treatment, Hyason (a hyaluronidase preparation of Organon, Oss, Holland) increases the stretchability of the eye muscles. To obtain an insight into this Hyason effect, experiments were carried out in eye muscles of rabbits, in vivo as well as in vitro.

In the in vivo experiments, no definite effect of Hyason on rabbit eye muscles was observed; in vitro, the muscles which had been treated with hyaluronidase, became a few mm. longer. It is possible that the effect of Hyason observed during stretching of human eye muscles, is rather based on the action on the ligaments and other supporting tissues which counteract the stretching of the eye muscles, than on a direct action on the muscles. In this line of reasoning, it is left out of consideration to what extent the results of experiments with rabbit eye muscles are also valid for human eye muscles.

Sorenson and Gümöre (1) published several cases of retardation of the pulse and even cardiac arrest during operations for strabismus, and this effect was observed when traction was applied to the eye muscles. Sorenson explained that these phenomena are based on the same mechanism as that of the well-known oculocardiac reflex. In my own experience, I have never observed retardation of the pulse during or after stretching of the eye muscles, but I always operate with retrobulbar akinesia and anaesthesia, where it may be assumed that the reflex tract is blocked, whereas Sorenson's patients were only generally anaesthetized.

Finally, some experience regarding the stretching of eye muscles in special cases is described, e.g., a favourable result of stretching of the rectus externus in so-called convergence insufficiency.

Discussion.

Mrs. Kok-van Alphen asked: Are the patients sick? Reply: Not after dilaudid atropine.

1 Sorenson

E. John and Gümöre

John E.: Amer. J. Ophthal. 41: 748 (1956).