THE VESTIBULO-OCULAR REFLEX AND OPTOKINETIC NYSTAGMUS UNDER THE INFLUENCE OF CINNARIZINE.
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INTRODUCTION. Cinnarizine (Cn) is an antihistaminic agent with specific vestibular Ca++ channel blocking capacity which has been found effective as an anti-motion sickness drug. We used the Vestibulo-ocular reflex (VOR) and the optokinetic nystagmus (OKN) to evaluate Cn's effects on the eye movement control mechanisms. METHODS. The VOR parameters were evaluated using the Smooth Harmonic Acceleration Test (SHM) at 5 frequencies: 0.01-0.04 Hz. The study was conducted on 16 healthy subjects aged 16-22. The effects of Cn on OKN's performance were evaluated after 2 hours administration. All 16 subjects underwent the SHM test, but only 12 completed the OKN test. RESULTS. Under the influence of Cn 50 mg, VOR gain at 0.04 Hz and phase lead at 0.16 Hz were significantly lower than on the OKN test. Phase lead values were higher at 0.01 Hz. CONCLUSIONS. Cn 50 mg partially affects both VOR and OKN parameters. The drug's influence on the OKN's phase parameter suggests that Cn affects the ocuulomotor pathways as well as the vestibular end organ.

HEMODYNAMIC MEASUREMENTS DURING PARABOLIC FLIGHT
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INTRODUCTION. A parabolic flight is a useful method as a simulation of weightlessness to study cardiovascular deconditioning, even though the available time is very short. METHODS. Cardiac output and blood pressure were continuously monitored during parabolic flights performed by a small rear-ward aircraft (M.A. G. 16A). A male subject, 28 years old, took 9 to 11 parabolic flights a day for 6 days. Two accelerating patterns, 2.5-G and 1.3-G, were used. Cardiac output was measured by the non-invasive method and blood pressure was measured by a finger cuff pressure method. RESULTS. Heart rate increased by 25% at 2.3-G accelerating period and decreased by 10% during low G period in the sitting up position. Stroke volume decreased by 30% at 2.5-G entry and increased by 30% during low G period. These changes became less in the 1.3-G pattern and in the sitting reclined position too. Diastolic blood pressure decreased during low G period. The heart rate was accelerated in the later parabolas in the same day. CONCLUSION. These results suggested that the hemodynamic changes in the parabolic flight would be modified by the pattern of acceleration and the adaptation of the subject.