autoregulation with increasing age. We examined the effect of acute increase in blood pressure on cerebral oxygenation. In 8 healthy young subjects, frontal cortical oxygenation was continuously monitored by near infrared spectroscopy, and blood pressure responses were measured by Finapres, respectively, before, during, and after lower limb cuff occlusion for increasing blood pressure. Cortical oxyhemoglobin concentration ([OxyHb]) and total hemoglobin concentration ([TotalHb]: [OxyHb]+[DeoxyHb]) significantly increased by 0.18 ± 0.21 mmol*mm ($p<0.05$) and 0.14 ± 0.21 mmol*mm ($p<0.05$) from baseline values, respectively while cortical deoxyhemoglobin concentration ([DeoxyHb]) did not change significantly ($p>0.05$) during cuff occlusion. The cuff occlusion changes in systolic blood pressure were significantly related to [OxyHb] ($r=0.909$, $p<0.05$) and [TotalHb] ($r=0.934$, $p<0.01$). Frontal cortical oxygenation and blood volume increasing with acute blood pressure increases with cuff occlusion, even in healthy young subjects. The upward regulation of cerebral oxygenation and blood volume changes were controlled by the changes in systolic blood pressure.

PII-2 The Effect of Finger Tapping Frequency on Cerebral Activation: a Near Infrared Spectroscopy

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Near infrared spectroscopy (NIRS) is a simple and inexpensive bedside technique that permits specified monitoring of changes in [O_2Hb], [HHb], and total hemoglobin ([tHb]) with high temporal resolution. The NIRS method is based on near-infrared light absorption changes that depend on concentration changes of the chromophores [O_2Hb] and [HHb] in the tissue under investigation. We studied that effect of finger tapping frequency in nine right-handed healthy subjects on cerebral activation. Subjects were measured at rest and while executing finger tapping with right hand at 25% maximal, 50% maximal and maximal frequency. There are significant increases in rCBF during maximal finger tapping compared with rest and 50% finger tapping. Our data show that total hemoglobin increase dependents on tapping frequency. The relationship between frequency and regional cerebral blood flow (rCBF) increase is, however, non-linear as the frequency. But the increase presents exponential fashion. Our data shows exponential increase may be involved by muscle power output at finger tapping. This study suggests that cerebral activation dependents frequency at finger tapping.

PII-3 Brain Oxy-Hemoglobin Changes while Drinking Coffee

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In order to elucidate the effect of oral stimuli while drinking coffee, cerebral blood volume using NIRS was measured. 16 volunteer male university students took part in the experiment. The oxy-hemoglobin concentration measured at the forehead decreased when tasteless distilled water or coffee was taken into the mouth. This decrease was found to continue after swallowing. Oxy-hemoglobin changes while drinking pet-bottled coffee were similar to these of distilled water and were different from the three kinds of coffee extracted from different coffee beans. In the case of these three kinds of coffee, no significant variation was observed by subjective evaluation, showed the different oxy-hemoglobin changes. It suggests that it is possible to obtain the objective data on enjoying the various coffee using NIRS.

PII-4 Overseas Survey for the Effect of Cedrol on the Autonomic Nervous System (2): A Survey in America

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We have found that cedrol extracted from cedar or pine, induces parasympathetic dominance and has a sleep-improving effect. In this study, a questionnaire survey of stress and sleep, effects of cedrol on the autonomic nervous system, and the perception of its odor was conducted among females living in three different locations in America. The stress level was highest, and the duration of sleep was shortest in Colorado Springs. The percent miosis on light reflex test increased significantly after inhalation of cedrol regardless of location. The percentage of the subjects who perceived the odor of cedrol was highest among subjects in Colorado Springs (CO) (69%), followed by subjects in northern New Jersey (NJ) (61%), and lowest among subjects in southern New Jersey (NJ) (57%). The percentages of the subjects who showed parasympathetic dominance were southern NJ (93%)> northern NJ (84%)=CO (84%). The results suggest that cedrol significantly induces parasympathetic dominance in these subjects.

PII-5 Increase in Peripheral Skin Temperature after Eating Warmed Chamomile Jelly

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In this study, the effects of eating warmed chamomile jelly on peripheral skin temperature were examined. The subjects were 40 healthy people, consisting of 20 males and 20 females