amplitude of the H-reflex wave gradually decreased, and finally disappeared. These changes of the amplitude which are named as the regression curve are steeper in the group with spinal cord injury at the stimulation of 1 msec and 5 msec duration. On the other hand in the group without distinct spinal cord symptoms and the control group they revealed the gentle slope and didn't become less than 50% of the maximum amplitude respectively.

Neither the regression curve nor the voltage difference of the H-reflex wave above mentioned was notified between the control group that has the symptoms of the lower extremity but no distinct spinal cord symptoms.

These facts suggest that in the group without distinct spinal cord signs the symptoms of the ipsilateral lower extremity are not necessarily induced through the spinal cord.

k-25. Changes and Clinically Significant Artefacts of the EEG-Rams in Posttraumatic Cervical Syndrome

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Under the condition of neck movement, e.g. rotation to particular direction, the vertebral artery might be occluded, either partially or totally, in some cases of the posttraumatic cervical syndrome (Barre's phenomenon). In such position change sudden alteration of the blood stream might occur in the brain stem, primarily, and also in the cerebral hemisphere, secondarily. EEGrams taken at this time might be modified.

Augmentation, propagation and/or slowing of the α rhythms has been verified. In some cases low voltage θ rhythm bursts or δ waves has also been provoked in moving the neck. In group of the drop attacks and of the positive Man's test, more than half the patients have shown this sort of the EEG changes. Groups of the muscular atrophy, hemorrhagic diathesis, senile persons and/or the patients complaining the clinical symptoms for more than one year have the same tendency as the drop attacks.

In the sitting position the patients were ordered to move their neck in scheduled order. Movement artefacts could be minimized by fixing all the lead wires at the patient's nape. Muscular activities superimposing over the ordinary EEG activities were observed only in the side corresponding to the patient's distress, in some cases. In other group, however, this is not the common way.
Bifrontal fast unduration due to the ocular movement has been seen often in some patients, complaining the finger tremor, for instance. In such the patients the marked nystagmus was picked up from the frontal leads as the characteristic artefact.

Slow and high amplitude unduration lasting several seconds or so has also been recorded usually in showing the frontal predominancy. High temperature and high age have been the predisposing factor in its appearance. This slow curves have, therefore, been related to the sweating of the face to certain degrees. They have had two interesting property, i.e. constancy and asymmetry. Only one case out of 16 who showed the remarkable asymmetry had the predominancy contralateral to the side of distress. This suggests the high usefulness of the ultrared ray thermography and also of the GSR in the lesion of the lower brain such as the posttraumatic cervical syndrom.

Sinuous arrhythmia has also been observed in about half the cases of the p.c.s. examined by our procedure. Paroxysmal tachycardia has, however, has made the condition complicated more or less. Both neuronal and humoral mechanisms should be related.


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L. Head Injury

1-1. Mechanism and Dynamics of Closed Head Injuries

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The authors reported in the previous paper that tolerance of a monkey to impact force on the head was a little over 6 meter in height, around 40 km/hr. in velocity and about 180 g in peak acceleration of the head when dropped to the hard packed ground.

However, it is sure that linear as well as angular acceleration take place in the brain simultaneously at the moment of impact, which affect and destruct...