DISCUSSION TO 80, 81 AND 82

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By using "Blindfolded vertical writing test with changes in head position (Fukuda and Hinoki)", 100 patients with head injury were examined, and the following results were obtained: in examining patients suffering from post-traumatic vertigo, the test reported here was found to be unique in that this test could indicate objectively the presence of positional vertigo in high incidence, and that when this test was compared with the test for positional nystagmus in the patients in whom both two tests mentioned above were carried out, the former test was more accurate and reliable than the latter test in the manifestation of latent abnormality of the equilibrium system in case of head injury.

Furthermore, worthy of note is the fact that by means of the writing test reported here the clinical cure of post-traumatic vertigo could be objectively evidenced by disappearance or decrease in degree of deviations in writing in all the head positions taken.

(2)

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1. In studying vertigo due to head injury from the point of view of equilibrium in humans, a new arrangement of vestibular examination (Fukuda) was found to be unique in that it could reveal new facts which had never been observed by means of vestibular examination using experimental nystagmus as a main indicator of reaction. Especially, it is worth noting that using "Blindfolded vertical writing test" and "Stepping test" (Fukuda), latent abnormality of the equilibrium system in case of head injury could be manifested in high incidence and that the improvement of post-traumatic vertigo could be clearly demonstrated by disappearance or decrease in degree of deviation in writing as well as in stepping, whereas the aggravation of it could be indicated by appearance or
increase in degree of deviation in writing as well as in stepping.

2. A newly devised rotation test, “Active head rotation test (Hinoki and Kurosawa)”, was proposed. This test was found to be of considerable value in manifesting clearly latent abnormality of the equilibrium system in case of head injury and also in indicating faithfully the improvement as well as the aggravation of post-traumatic vertigo.

(3)

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Thirty patients with post-traumatic vertigo were examined with the use of “Active head rotation test (Hinoki and Kurosawa)”, and the following results were obtained: in performing this test in normal subjects, the eye movements coincide, in direction and in time of onset, with the head movements at the moment of the beginning of active head rotation in the horizontal plane. Namely, coordinate movements between the eyes and head appear, thus manifesting the normal equilibrium function. This type of pattern is called Type Ia. However, when the patients suffering from vertigo due to the oto-neurological diseases are examined by means of this test, the eye movements can not coincide with the head movements in the same manner as in case of normal subjects: i.e., patterns other than Type Ia appear, thus indicating the abnormality of the equilibrium system. We could confirm this fact in the majority of cases with post-traumatic vertigo. That is, by using this test, we could find such abnormal patterns other than Type Ia in 27 out of the 30 cases examined. Furthermore, this test was found to be of value in that it could indicate objectively and quantitatively the clinical cure of post-traumatic vertigo by an increase of Type Ia mentioned above.