and correlated to age and various underlying diseases.

Materials were 92 brains autopsied at our department with various diseases. Specimens were taken from the frontal, parietal, temporal, occipital, basal ganglia, cerebellum, and pons. These specimens were stained with Hematoxylin-Eosin, silver impregnation method (Hasegawa-Ravens method) and Cajal's method.

Results:

1. Even in the so called normal brains, there are some abnormal intracerebral vessels, especially at the level of the microcirculatory vessels.

The types of the abnormal intracerebral vessels are classified histologically as (1) spiral form, (2) serpentine form, (3) saccular form, and (4) transitory form of the above forms.

2. The incidence of the abnormal vessels is low under 40 years of age and thereafter increases gradually with age. The abnormal intracerebral vessels are frequently seen in the brain with hypertension or sclerosis of the basal cerebral arteries, and more frequently in the cases with above two diseases.

3. The incidence of the abnormal vessels is higher in the white matter, basal ganglia, subcortical and pons in that order.

4. The incidence of the abnormal vessels is high in the brains of cerebral thrombosis or hemorrhage, even excluding the peculiar abnormal vessels around the lesions.

5. We think there is some correlation between the incidence of the abnormal intracerebral vessels and the microcirculatory disturbance or destruction of that location.

f-7. Carotid Basilar Anastomosis—Persistent Hypoglossal Artery with Special Reference to Radiographic Features

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The persistent hypoglossal artery as a carotid basilar anastomosis is relatively rare. Two cases of persistent hypoglossal artery are reported with reference to radiographic features and clinical significance. The first case is a 35 year old female with occasional headache, nausea, ataxia and later double vision. The second case is a 39 year old male with convulsion of right fingers and unsteadiness in walking. These symptoms are regarded as transient ischemia of brain stem, because they are transient and disappear spontaneously. Radiological

features: Persistent hypoglossal artery divides from internal carotid artery at the level of the second cervical vertebra, runs parallel to it before curving rostrally and laterally with convexity at the base of the skull and enters the skull through the canal of the hypoglossal nerve. It then passes medially and rostrally and terminates as the basilar artery. The diagrams of anterior-posterior, lateral and axial views showing the above mentioned features of persistent hypoglossal artery are presented. To demonstrate the way of persistent hypoglossal artery through the hypoglossal canal, an axial view of a model using human skull is taken and compared with the diagram. It should be emphasized that axial projection is useful together with selective catheterization for the diagnosis of persistent hypoglossal artery. We collected 34 cases of persistent hypoglossal artery (13 from Japan, 21 from the other country) from the literature, although it is considered to be rare. We believe that the diagnosis of persistent hypoglossal artery would increase as angiography becomes more popular and progresses.

f-8. Serial Vertebral Angiography

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f-9. Surgical Treatment of the Vertebro-Basilar Insufficiency

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Evaluation was made of 81 operations as tabulated below for vertebro-basilar insufficiency from 1966 to 1968.

1) Common carotid-vertebral anastomosis with autogenous vein bypass graft for obstruction of proximal vertebral artery	1
2) External carotid-vertebral end to end anastomosis for obstruction of proximal vertebral artery	1