of circulation are not only external compression on the vessels, but also the alteration vessels themselves, such as internal occlusion by the sludged cells, microemboli and intravascular clotting in vessels.

4) Following the deflation of the balloon, acute brain swelling (stage 2–4) was observed associated with the alteration of cerebral circulation in the majority of the capillaries and small vessels. Microcirculatory disturbances caused by intravascular occlusion must be considered as a cause of acute brain swelling following release of ICH.

According to these experimental results, the treatment of acute brain swelling after release of intracranial hypertension, both the dehydration and hyperventilation is not effective therapy, but the combination therapy of hemodylusion and hyperventilation or administration of THAM solution would be usefull therapy for such severe acute brain swelling following release of ICH.

The useful clinical indicators selecting correct therapy for the cases, are increasing of intracranial arterio-venous O$_1$ difference in the first choice.

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**C-8. Acute Brain Swelling**

—Chemical Factor and Cerebrovascular Tone—

Hiroyu Ota, Kiyoshi Iwatsuki, Katsujiro Matsumoto, Syogo Nagao and Akira Nishimoto

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**C-9. Formation and Absorption of Cerebrospinal Fluid in Increased Intracranial Pressure**

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The technique of cerebrospinal fluid perfusion by Pappenheimer has made a great progress in understanding the CSF dynamics. Fifteen dogs were perfused from ventricle to cisterna magna with artificial CSF containing 10 uCi of $^{111}$I-RISA in 500 ml.

The successive 10 min samples were collected and measurements were made on inflow rate, outflow rate and radioactivity.

The CSF formation rate was increased in accordance with the elevation of the