4) After occlusion of the middle cerebral artery and contralateral carotid artery and preliminary clipping of the basilar artery, a number of dogs showed the signs of hemiplegia. Autopsies revealed the findings of encephalomalacia in the area of the middle cerebral artery.

(II) Complete occlusion of cerebral blood flow.

5) Ten per cent out of the cases with combined occlusion of bilateral common carotid and vertebral arteries expired in ten minutes after the procedure.

6) Forty per cent out of the dogs died at normal body temperature in ten minutes following the ligation of the basilar artery with the above (5) procedure.

7) The fatal rate was about eighty per cent after the compression by use of KABAT's pneumatic tourniquet around the cervical area combined with above (6) procedure.

Some researches about the so called avascular cerebral operation performed following these experimental observations.

106. Polarographical Study on Oxygen Tension in the Brain Tissue : Experimental and Clinical Study

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We have studied how to increase oxygen tension of the brain tissue or local cerebral circulation, by means of polarography and E.E.G. The animal used in the experiments were the normal adult cats, the cats with cerebral embolism, or with acute rising of cerebrospinal fluid pressure, and we have followed the effects of the vasodilatory agents, the blocking agents of the autonomic nervous system, cerebral metabolism activating agents, stellate ganglion block, extirpation of the carotid body and hypothermic anesthesia, on polarography and E.E.G. We have applied this method clinically to the patients with cerebrovascular disturbance, head injury and brain tumor.