

2) When the arrest time exceeded over 10 minutes the increased vascular resistance was striking. After reopening of the circulation the volume of the inflow (a) reduced further, or (b) restored slowly, or (c) increased considerably. In the cases of (a) and (c) the electrical activity seldom reappeared or reappeared incompletely after long time lapse. Only in the case of (b) the EEG reappeared and grew to the prior pattern. The gradual decrease of flow as in (a) could be inhibited and vascular resistance could be reduced to the prior value by infusion of a considerable quantity of the artificial solution. The EEG's reappeared in this circumstance. In the case of such as (a) the increase of the flow could be produced by elevating the perfusion pressure, but the EEG did not reappear. In the latter case, the blood pressure of the circle of Willis was rather lower to the perfusion pressure and oxygen contents of the internal cerebral vein was very high.

The facts stated above indicate that hindrance of blood flow to the nervous elements resulted from mechanical obstruction of the supply vessels and opening of shunt routes could be attributed to an origin of loss of brain function following circulatory arrest to the brain.

25. Experimental Transplantation of the Head

—Two Headed Dog—

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(See the text)

26. Complication, Efficiency and Application of Tracheotomy in Neurosurgical Diseases

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For the past few years, we have experienced a 10 percent decrease in mortality following major neurosurgical procedures. It is our opinion that