m-5. The Hypotensive Effect of Ascorbate on Intracranial Pressure

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The experimental and clinical results obtained with the intravenous use of ascorbate (sodium and meglumine salt) as agents for decreasing intracranial pressure are reported. The method of administration is as follows. In a dosage of 1.0 gm/kg body weight, administered intravenously for 20 minutes as 25% solution, ascorbate induces marked intracranial hypotony within 30 minutes, to be continued for 3 or 4 hours.

Meglumine ascorbate has proved valuable in completely eliminating hypernatremia as well as disorder of blood-brain barrier, which are obliged to originate in the intravenous rapid injection of sodium salt. The results in animal experiment show that meglumine ascorbate is more highly effective than sodium salt to produce a significant osmoreduction in intracranial pressure.

m-6. Studies on the Osmotherapeutic Agents for Brain Edema

IV. Prolongation of CSF Pressure Lowering Effect by the New Osmotherapeutic Agent, 30% Fructose-25% Ascorbic Acid

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Osmotherapeutic agents are indispensable in the field of neurological surgery. We have been studying on the osmotherapeutic agents systematically for many years. In 1965 we reported on fructose-mannitol solution containing 30% fructose and 15% mannitol in Japanese neurosurgical society meeting and in 1967 this paper was published in J. of Neurosurgery Vol. XXVI, No. 3. The main important point for ideal lasting effect with intravenous administration of minimal fluid volume. We mixed hypertonic fructose solution and ascorbic acid instead of mannitol to prolong the CSF Pressure lowering effect and to reduce the water volume administered into the cardiovascular system after fundamental study on the osmotherapeutic effect of ascorbic acid. The new agent contains fructose in 30% and ascorbic acid in 25%. One of the advantages of this solution is that the amount of water volume into the cardiovascular system is only 3 ml/kg and is much less than the other osmotherapeutic agents, as much