CEREBRO-VASCULAR IMPEDANCE MEASUREMENT WITH DOPPLER TECHNIQUE

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An efficient cerebral blood flow results from the interaction of all the mechanisms that maintain the parameters intercorrelated to assure autoregulation of the cerebrovascular system.

The cerebro-vascular impedance is strictly linked to the following parameters: mean arterial blood pressure, venous pressure, intracranial pressure, arterial P_{CO2}.

Clinical experimental methods have been employed to assess whether the Doppler technique is able to furnish quantitative data and a more thorough definition of the cerebral vascular condition. The relevant literature contains a systematic investigation of a series of phenomena. This work has been undertaken to interpret the physiopatological mechanisms and plan correct treatment.

The purpose of this lecture is to analyse the methods used by different Authors to investigate the cerebro-vascular impedance value by means of Doppler technique.

On the basis of personal experimental research I would query the likelihood of obtaining reliable data from a Doppler examination on the common carotid artery, because of collateral run-off branches, i. e. the external carotid artery. More reliable data on the cerebro-vascular impedance can be registered with a Doppler examination on the internal carotid artery in the adult and on the intracranial arteries in the infant.