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Service (sector) Glaucoma Nº CEP

The Role of Central Nervous System in the Control of Intraocular Pressure

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Purpose: To evaluate the role of rostral ventrolateral medulla (RVLM), a major regulating center of sympathetic cardiovascular activity, in the intraocular pressure (IOP) regulation. **Methods**: Six male Wistar rats were anesthetized (urethane 1.2 to 1.4 g/kg) and placed in a stereotaxic device (KOPF). The IOP and mean arterial pressure (MAP) were measured during bilateral glutamate microinjection (10 nmoL/100 nL) using glass micropipettes into the RVLM. The access to RVLM was obtained through craniotomy and exposure of cerebellums and obex (stereotaxic reference). Glass micropipettes were placed to reach RVLM. IOP measurements were achieved through a sensor attached to a 30 G needle placed into the anterior chamber. The IOP and MAP were registered online. **Results**: The mean baseline IOP was 13.5 mmHg (SD, 3.3mmHg). The ipsilateral microinjection of glutamate raised the mean IOP in 6 mmHg (SD, 2.5mmHg). On the other hand, contralateral microinjection did not produce significative alterations in IOP. **Conclusions**: The RVLM seems to be related to the IOP regulation, suggesting that the control of IOP is not only local, but also related to central nervous system (CNS). A larger number of animals is required and other areas in the CNS should also be evaluated.