

論 文 要 旨

Diurnal Variation of Melatonin Concentration in the Cerebrospinal Fluid of Unanesthetized Microminipig

(無麻酔下マイクロミニピッグにおける
脳脊髄液メラトニン日内変動)

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Background/Aim:

The aim of this study was to develop a method for sequentially collecting cerebrospinal fluid (CSF) from an unanesthetized Microminipig, which shares many physiological and anatomical similarities with humans, such as diurnality, and investigate the diurnal variation of melatonin concentration in the CSF.

Materials and Methods:

A catheter was placed percutaneously into the subarachnoid space of an anesthetized animal, and the tip of the catheter was placed into the cisterna magna under X-ray. We then sequentially collected CSF at light-on and -off times from the unanesthetized animal for several weeks. After catheter placement, a period of one week or more was necessary to relieve the contamination of RBCs in the CSF.

Results: A higher melatonin level in the CSF was noted during lights-off time, and the level was higher than that in the serum.

Conclusion:

This model of sequential collection of CSF will contribute to research in brain functions.