

COMOBIO project

Description of the projects

Blood-brain barrier permeability and migraine in a rat model

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Whether GSM microwaves can brake or not the blood-to-brain barrier, inducing brain oedema and inflammation, remains controversial since both positive and negative results have been published in roughly equal number. Also, epidemiologic studies did not allow to decide whether microwave exposition coul induce migraine attacks and experimental investigations on animal models are completely lacking in this topic.

The "Physiologie vasculaire" group (UMR 5017 CNRS) associated to the PIOM Laboratory have thus decided to undertake the following research:

To compare plasma protein extravasation in rats exposed or not to GSM microwaves by using sensitive techniques (immunodetection) allowing measurement of minute quantities of extravasated bovine serum albumine. Arterial pressure will be monitored continuously during exposure to microwaves in order to make sure that a possible extravasation do not result from mechanical disruption of BBB due to excessive blood pressure (secondary to immobilization stress).

To use a new non-invasive animal model of cephalagia designed in our laboratory in order to compare in 4 groups (rats made sensitive to cephalagia non-exposed, rats sensitive to cephalagia exposed, controls exposed, controls non-exposed) plasma protein extravasation (inflammation) in the meninge, as well as activation of neurons in the caudal trigeminal nucleus (indicative of pain generation in the meninge).