III. — **Prekallikrein** : Corticosteroïds are without effect on prekallikrein levels, as measured by the kaolin induced arginine esterase method.

IV — **Anti-thrombin III** : Unlike oestro-progestative steroïds, corticosteroïds are without effect on anti-thrombin III.

V — **Peripheral fibrinogen uptake** : Intravenously injected hydrocortisone does not modify peripheral uptake of fibrinogen ^{125}I.

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■ ARTERIAL PHOSPHOLIPASE AND PROPHOSPHOLIPASE

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In rat, arterial tissue, particularly the aorta contains a phospholipase A_2 and a platelet-factor activable phospholipase. Enzyme and proenzyme can be dissociated from membranes by NaCl solution 1 M or 0,5 M. This phenomenon is reversible : indeed, the removal of NaCl by dialysis is followed by the fixation of the two enzyme forms.

In man, aorta also contains a phospholipase and its zymogen. Furthermore, neither human platelets nor arterial tissue contain an activator.

Prophospholipase activator

1) The fractionation of rat platelet lysate gives a fraction containing a prophospholipase activator ; its molecular weight exceeds 200,000 ; it contains proteins and lipids

2) The injection into rats of the partially purified fraction is followed by the appearance of an active phospholipase in plasma as well as in red cells, and by the increase of arterial phospholipase activity during the first 15 minutes following the injection.

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■ EVOLUTION OF BRAIN LIPIDS AND FATTY ACIDS AS A FUNCTION OF AGE : RELATION WITH THE BLOOD-BRAIN BARRIER

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During brain development, the content in brain lipids increases considerably, especially at the time of myelination. A relation has been established between the nature of the lipids ingested and the constitution of brain membranes. Therefore, it seemed interesting to study the blood-brain barrier during brain maturation. A program was carried on, in relation to the endogenous biosynthesis of the characteristic lipids of brain and of their fatty acid constituents ; the transport of those lipids through the barrier was also examined. The respective part of both pathways could thus be determined.

In microsomes, the sphingolipids which will be constituents of myelin, already contain long chain fatty acids. It does not seem that microsomes participate directly to the elaboration of myelin constituents. Therefore, in this fraction, were studied the enzymes synthesizing myelin lipids and their characteristic long chain fatty acids. At their level will also be followed the fate of the fatty acids having crossed the blood-brain barrier and penetrated into brain cells. Radiogas chromatography of the products of fatty acid biosynthesis in mice brain microsomes confirm the existence of a « de novo » system synthesizing C 16 and of at least two elongating systems for long chain fatty acids. There may be an intermediary system forming C 20 fatty acids from C 18. Thus, C 16, C 18 and C 20 seem to be elongating substrates for different systems. The study of the Quaking mouse, myelin deficient mutant, gives arguments in favor of those results.

The injection of radioactive fatty acids through the vena of the tail as well as through the jugular vene, give identical results in the two months old rat. Palmitic acid as well as stearic acid seem to go through the blood-brain barrier. Autoradiographs show a homogenous diffusion around blood vessels and capillaries. At this age, myelin does not present an important activity, as myelination is over and turn-over very slow. The transport does not seem to be more active in areas without barrier, such as area postrema and choroid plexi. Brain lipid extract after intravenous injections, show maximum activity in phospholipids. Only a few per cent of radioactivity are found in cerebrosides.

Intra-ventricular injection with a stereotaxic apparatus have been performed. Because of the low specific activity of the commercialised products, important volumes were injected. Atloido-occipital cisterna was opened so as to avoid intracranial hyperpressure ; therefore, the perfusions were ventricular and cisternal. Autoradiographs show a diffusion of activity around the ventricules, proportional to the duration of the perfusion. It is possible to visualize activity in the lumen of capillaries which indicates a transport from cerebro-spinal fluid to blood.T he brain regions devoided of blood-brain barrier have not yet been studied. Lipid extract shows again, after ventriculo-cisternal perfusions, that activity is mainly found in phospholipids ; only 10 p. 100 is located in cerebrosides.

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■ ULTRASTRUCTURAL CHANGES OF THE CEREBRAL CAPILLARIES AND GLIAL CELLS IN EXPERIMENTAL HERPES SIMPLEX ENCEPHALITIS OF MICE

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The ultrastructural study of the central nervous system of mice which have been intracerebrally inoculated with 10^{-4} TICD of herpes simplex virus demonstrated changes in the blood capillaries and glial cells. These changes were well evident 4 days after the inoculation.