

Key words: liver cirrhosis, renal function, nitric oxide.

Ключові слова: цирроз печінки, функція нирок, оксид азоту.

УДК 615.9:591.3:616-092

ESTIMATION OF DEVELOPMENT OF RAT PUPS, PRENATALLY EXPOSED TO LAPROL-604

ОЦІНКА РОЗВИТКУ РОЗЧИННИХ ПУБІВ,
ПРЯМО НАДАНИХ ЛАПРОЛІ-604

**Popova T. M., Karaban O. M., Loskutov M. F.,
Tymoshenko L. V., Usenko S. A., Popov O. I.**

Kharkiv Medical Academy of Postgraduate Education, Kharkiv

The presence of nonionic surfactants and their biodegradation products in different environmental compartments can invoke a negative effect on the living organisms. The aim of the present study was to assess the impact of nonionic surfactant named Laprol-604 on the development of rat pups prenatally exposed to it.

One hundred pregnant Wistar rats were randomly divided into four groups (25 animals in each group). Laprol-604 was administered to pregnant dams once daily by gavage at doses of 0,125, 1,25 and 12,5 mg/kg, respectively in the 1st, 2nd and 3rd group from gestation day (GD) 2 until GD 21. The 4th group (controls) consisted of 25 intact pregnant rats without Laprol-604 administration. Pregnant rats and their pups were routinely monitored during the study to assess their general health and the effect of Laprol-604 administration.

Laprol-604 administration decreased statistically significant litter size in the 3rd group (5,48±0,21), 2nd (7,07±0,15) and 1st (8,20±0,12) groups compared with controls (9,31±0,23) (p<0,01). Body weight of pups in the 2nd and 3rd groups significantly stunted behind control pups. All of rat pups of 3rd group were pallid, inactive, became moribund and died within the first 48 hours after birth. Approximately 50% of the pups born from mothers (2nd group) who were daily administered 1,25 mg/kg died during the first 10 days after birth. Other 50% of offspring survived and reached puberty, but showed delays in growth, weight-gain and opening of the eyes. They opened the eyes on the 14th postnatal day. The mean time of the external auditory canal opening was delayed by 72 hours. Prenatal Laprol

exposure of pups showed retarded release of the epithelial edge and 48-hours delay in unfolding and erection of the pinna. By postnatal day 8, sculpting of the external ear was noticeably poorer in pups of the 2nd group compared to the 1st group and controls. Other distinguishing features were present such as delay formation of the oral vestibule, malformation of the vibrissae, and impending eruption of the lower incisors. The lower administered dose of Laprol-604 led to no significant differences between data of the 1st and control groups.

Therefore, maternal Laprol-604 exposure during gestation induced neonatal mortality, reduced litter size, resulted in low birth weight of progeny and deceleration of body weight gain in rat pups, delayed the time of external auditory canal opening and the mean eyelid opening. Laprol-604 had dosage-dependent developmental toxicity effect on rat progeny.

Key words: Laprol-604, surfactant, reproductive toxicity, gestation day, postnatal day.

Ключові слова: Лапрол-604, поверхнево-активна речовина, репродуктивна токсичність, гестаційний день, постнатальний день.

УДК 616.839:615.838

IMMEDIATE RESPONSES OF THE AUTONOMIC NERVOUS SYSTEM TO THE BALNEOFACTORS, THEIR NEURO-ENDOCRINE-IMMUNE ACCOMPANIMENTS AND PREDICTORS

НЕМЕДЛЕННЫЕ ОТВЕТЫ ВЕГЕТАТИВНОЙ НЕРВНОЙ СИСТЕМЫ НА БАЛЬНЕОФАКТОРЫ, ИХ НЕЙРО-ЭНДОКРИНО-ИММУННОЕ СОПРОВОЖДЕНИЕ И ПРЕДИКТОРЫ

Popovych I. L.

Bohomolets' Institute of Physiology of National Academy of Sciences, Kyiv

Background. In previous studies it has been shown that in response to the intake of Bioactive Water Naftussya (BAWN) the activity of the autonomic nervous system changes and the vector of the reaction is ambiguous. However, the issue of the specificity of immediate effects of BAWN on the nervous as well as endocrine and immune systems is still relevant. This is the purpose of this study.

Material and research methods. The object of observation were 15 volunteers-men (age 26÷60 yrs, M±SD: 44±12 yrs) without clinical