CHOLESTASIS IN OVARIECTOMIZED RATS IN FETAL TISSUE TRANSPLANTATION

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Summary: *The thesis deals with the treatment of climatic and post-castration syndromes is still quite relevant, which is associated with the appearance of serious complications and the presence of some contraindications for the main type of therapy - hormone replacement therapy.*

Key words: *treatment, cholestatic phenomena, experiment, decapitation, transplantation.*

The treatment of climatic and post-castration syndromes is still quite relevant, which is associated with the appearance of serious complications and the presence of some contraindications for the main type of therapy - hormone replacement therapy. One of them may be the development of cholestatic phenomena leading to stone formation in the biliary tract with prolonged administration of estrogens. As an alternative therapy for post-castration syndrome, transplantation of a fetal tissue complex with the ability to normalize the estogenic background was proposed several years ago. However, whether cholestatic phenomena will develop at the same time remains unclear, due to the small number of subjects. Clarification of this question was the purpose of the present study.

Experiments were carried out on white female rats of a mixed population. Ovariectomy was performed through the abdominal incision a month before the start of the experiments. Then the animals were divided into several groups: one was injected with placental tissue, the other with fetal liver tissue, the third with a complex of these tissues with the addition of fetal brain tissue. Fetal tissues were transplanted into the muscle layer of the lateral thigh. Rat fetuses were obtained on day 20 of gestation by Caesarean section. All surgical interventions were carried out under ether anesthesia. In a separate group of ovariectomized animals, etypyl-estradiol was administered in two doses for 7 days. Control animals received a similar volume of solvent. One week after transplantation, a one-hour portion of bile was taken from the rats through a cannulated bile duct, in which cholesterol and bile acids were determined by conventional methods. Some of the animals were slaughtered by decapitation to assess liver weight.

As you can see from the table, exogenous estrogen in a dose-dependent manner reduces the volume of bile secreted and the content of bile acids in it, which indicates the development of cholestasis. Against the background of minor changes in the release of cholesterol with bile, a decrease in the bile acid coefficient, cholesterol contributes to stone formation in the biliary ducts. This phenomenon is so characteristic of estrogens that an experimental cholestasis model has been developed and is now widely used, involving the administration of ethinyl-estradiol at a dose of 5 mg/for 5 days.

It was found that similar, but less pronounced, changes were characteristic only for the placental tissue. In other cases, no statistically significant shifts relative to the control were found. Although similar values of estrogen content are detected in the fetal liver and placenta, the absence of cholestatic phenomena during the administration of a complex of fetal tissues and hepatic tissue may indicate the existence of some tissue factors in the latter that have an anticholestatic effect.По-видимому, эти же факторы противодействуют и гипертрофии печени, которая была характерна при введении этинил-эстрадиола. Apparently, the same factors counteract liver hypertrophy, which was characteristic of the administration of ethinyl-estradiol. According to some authors, liver hypertrophy can develop when estrogens activate the Pregnan-X receptors, which simultaneously have the ability to stimulate the activity of the estrogen-metabolizing family of cytochrome P-450 alpha, which converts cholesterol into bile acids. The inhibition of the latter is largely explained by the cholestatic effect of estrogens. In this case, tissue factors of the fetal liver most likely have the ability to block either the PCP itself or its messengers.

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