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**DYNAMICS OF ACTIVITY AND  
DURATION OF FUNCTIONING OF  
CRYOPRESERVED CRYOEXTRACT,  
PLACENTAL CELLS AND FRAGMENTS  
IN THE ORGANISM OF EXPERIMENTAL  
ANIMALS**

**ABSTRACT. . Background.** Due to the fact that the regenerative medicine has been actively developing, an actual task is to study the features of functioning of biological objects in a patient's body. **Objective.** The aim was to study the dynamics of human chorionic gonadotropin, alfafetoprotein secretion and biodegradation in an organism of experimental animals of cryopreserved cryoextract, suspension of cells and fragments of human placenta. **Methods.** After administering the cryopreserved extract, fragments and suspension of placental cells to experimental animals we determined the content of alpha-fetoprotein and human chorionic gonadotropin at days 1-3, 7, 14, 21, 28 and 60; the site of cryopreserved placental fragment transplantation was histologically examined. **Results.** After application of cryopreserved placental cryoextract, the test compounds were identified in the highest concentration on the first day, the period of complete elimination from the blood of animals was limited by a week. After application of cryopreserved placental cells and fragments a slow increase of the alpha-fetoprotein and human chorionic gonadotropin concentrations were observed. Maximal concentration was detected during the first week, a gradual decrease was observed to the 28<sup>th</sup> day in case of cells and 60 days – placental fragments. The results of histological study of implanted placental fragment and surrounding tissues showed preserved typical for placental villous structure; they has been determined in a body of experimental animals for a long time (up to 60 days) and. **Conclusion.** The acellular object (placental cryoextract) was demonstrated to cause a pronounced and maximum effect in the first day after administration, their impact on a body was limited by a week. The introduction of placental cellular and tissue structures results in a more gradual release of the studied substances, the duration of their identification is 4-9 times longer. Our findings are crucial in selecting the cryopreserved biological objects of placental origin depending on the disintegration degree when administering them in the certain clinical situation.

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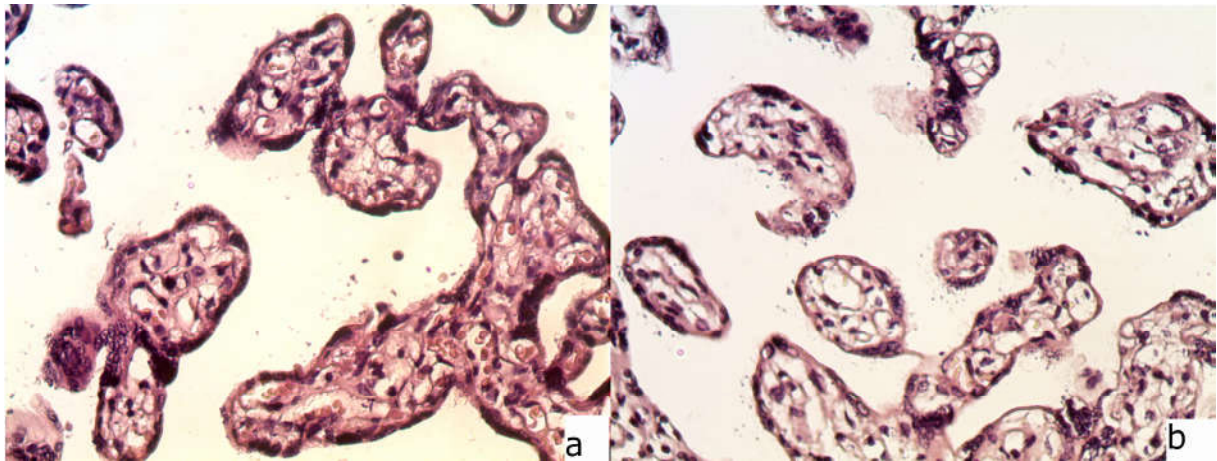


Fig. 2. Fragment of human placenta: a – native tissue; b – cryopreserved tissue. Hematoxylin&Eosin staining,  $\times 400$ .

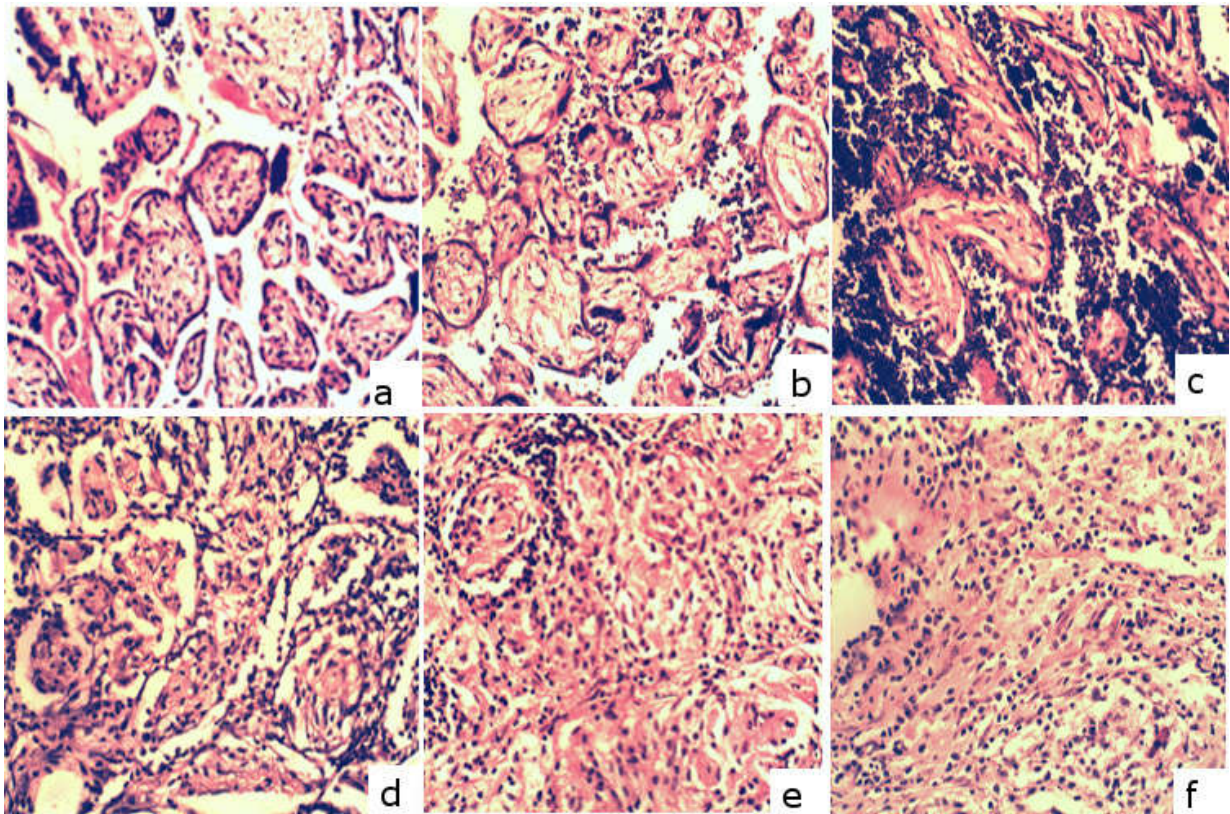


Fig. 3. Histological examination of the implantation site in cryopreserved fragments of placenta: a – day 1, b – day 3, c – day 7, d – day 14, e – day 28, f – day 60. Hematoxylin&Eosin staining,  $\times 200$ .

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