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PATHOMORPHOMETRIC PRESENTATION OF PLACENTA OF WOMEN WITH CHRONIC VIRAL HEPATITIS B WHO RECEIVED TREATMENT WITH PROTEFLAZID

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A large amount of studies are devoted to the study of pregnancy and childbirth in women with chronic viral hepatitis B (CVH B) and show its pathological nature, which leads to preeclampsia and maternal mortality [2,3,4]. Today, there are different theories of the pathogenesis of preeclampsia, one of which is vascular. According to this theory, in the early stages of gestation (up to 16 weeks) the trophoblast migration abnormality occurs in the muscular layer of the spiral arteries of the uterus in the progress of pregnancy resulting in the formation of defective wire-wrap-placental blood flow, vascular damage and development of preeclampsia.

Frequent chronicity of the disease and development of complications, reduce the quality of life and causing death in these patients, requires improvement of therapy. Despite the abundance of literature data the dependence is understudied of the incidence of obstetric and perinatal pathology of the ongoing comprehensive treatment of disorders of the liver, including antiviral therapy. In the available literature we did not find the works on the use of Proteflazid for treatment and prevention of complications of gestation in pregnant women caused by chronic viral hepatitis B with minimal activity. In this connection, we have studied the effects of chronic viral hepatitis B (CVH B) on morphological and morphometric parameters of the placenta in women with preeclampsia.

Study objective: we have studied the pathological presentation of the placenta of women with chronic viral hepatitis B, who received during this pregnancy antiviral drug Proteflazid.

Materials and Methods: the pathological presentation was studied of 30 placentas of women with CVH B with minimal activity treated in the complex treatment of the underlying disease with Proteflazid during pregnancy. Age of pregnant women ranged from 21 to 36 years and averaged 24.3 ± 0.3 years.

Pathomorphometric study of placenta was conducted jointly with the National Pathologicoanatomic Centre (MD, professor Israilov R.I.). Pathological placenta slices were stained with hematoxylin and eosin. The slices were examined on a light microscope. In the micrographs of the same magnitude using Avtandilov's morphometric grid the relative proportion was calculated of the various structural components of the terminal villi: stromal vascular trophoblasts, syncytiotrophoblasts, foci of fibrinoid and calcification. For objective summary of the results the morphometric study was performed of placental tissue. To this end, the preparations stained with hematoxylin and eosin, were studied in a semi-automatic analyzer Integral- 2M, with the following options examined: area of the villi, villous stroma area, number of vessels in 1 villus, villus vascular area, number of vessels beneath the syncytium, subsyncytial vascular area.

Results and discussion. The results of morphological examination of the placenta during treatment with Proteflazid showed that pathological changes found in the placenta during preeclampsia against chronic hepatitis B in the form of evaluative dystrophic, dyscirculatory disorders are less pronounced, and the emergence of foci of inflammation and compensatory-adaptive processes are localized only in the basal plate.

At that, the fiber structures of chorionic plate are relatively dense, with an increase in the basic substance of the stroma eosinophilia. The amnion placenta showed minor degenerative changes of the epithelium, basal membrane, without swelling and loosening of the stroma (Fig. 1). Stem villi with a little edema of the stroma, which are found on the surface of the small terminal villi.

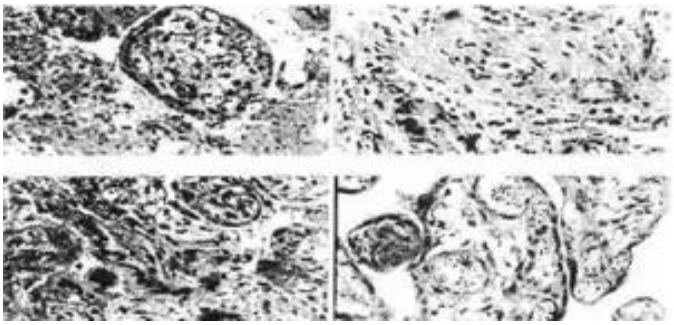

Fig. 1. After treatment. Reduced edema on basal plate. H&E staining

In certain cases, chorionic plate sometimes infiltrated lymphoid and young connective tissue and cells. On the basal surface it was also marked with lobular proliferation of young connective tissue cells. Adjacent to these sites stem villi considerably thickened and well presented with differential stromal and trophoblastic cells. After treatment in the stem diameter and average villi there was detected dyscirculatory stabilization and destructive disorders in the stroma, and in the vessel walls. In some cases, the stroma is represented by huge bundles of coarse fiber connective tissue and radial thickening of the vessel walls. The central location of the stem villi vessels are narrowed, in the lumen - malformed cells, thickened walls, presents several layers of proliferated young connective tissue cells, and lymphoid cells (Figure 2.).

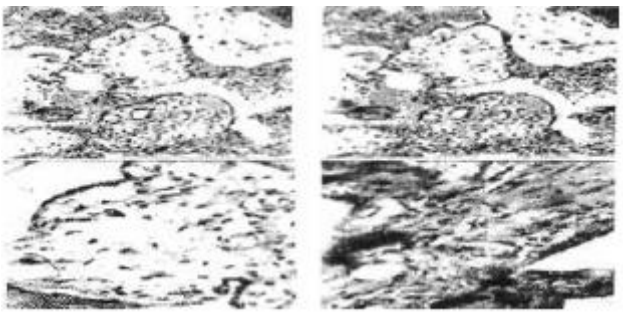

Fig. 2. After treatment. Improved state of trophoblasts, lymphoid infiltration of the stroma of terminal villi. H & E stain. SW: approx. 1, rpm 40.

The circumference of the vascular stroma usually consists of irregular connective tissue. In these cases, on the surface of stem villi the epithelial cover over a large area is preserved. Terminal villi are relatively small, with elongated shape and flattening layer of trophoblasts and vasodilatation (Fig. 3).

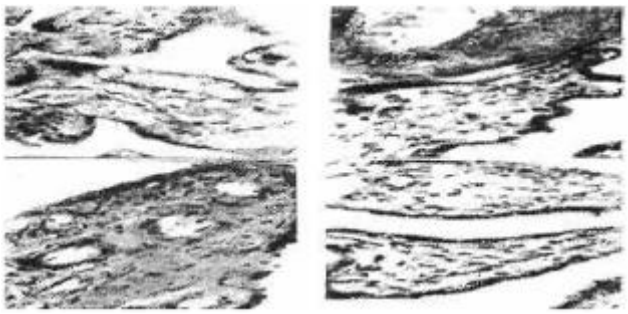

Fig. 3. After treatment. The expansion of vessels, flattening of the trophoblasts of terminal villi H&E stain. SW: approx. 10, rpm 40.

There is individual merger between several terminal villi into a bundle with an increase in the number of syncytiotrophoblast nodules. In other cases, in the stem villi the formation was observed of the large amount of syncytiotrophoblast nodules. Terminal villi were moderately developed, small, stroma is almost absent, and have sporadic complete blood vessels. At the same time some villi have centrally located vessels and immature stroma, consisting of hyperchromatic

connective tissue cells. Surface epithelium is represented mainly by trophoblasts and cytotrophoblast (Fig. 4).

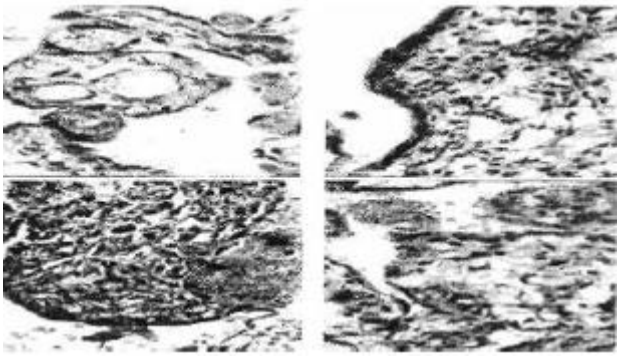

Fig. 4. After treatment. Hyperplasia of trophoblasts and cytotrophoblast of terminal villi. H & E stain. SW: approx.10, rpm 40.

Abnormal circulation and degenerative changes both in maternal and fetal placenta are mild and lead to the appearance of lesions composed of mature and thin villi with loose stroma, central location of vessels. On the surface the trophoblasts form the multi-row and multi-layered layer of syncytiotrophoblast nodules, most of which are available in intervillous space.

The results of morphometric studies have shown that during the treatment of chronic hepatitis with Proteflazid a decrease is observed in the area of connective tissue of terminal villi stroma, dilated blood vessels, which indicate an improvement in blood supply to the placental tissue, disappearance of edematous phenomena in the stroma. The engorgement of vessels naturally leads to an increase in oxygen supply of cell components, which is accompanied by a decrease in syncytiotrophoblast count 2-fold and averaged 9.6 + 1.7%. Fibrinoid area (4,8 ± 0,9%) and calcification (1,7 ± 0,3%) under the effect of the treatment are significantly reduced.

Conclusions. The use of the antiviral drug Proteflazid in pregnant women with chronic viral hepatitis B leads to improved blood circulation, reduced degenerative changes in both maternal and fetal placenta. Morphologic study showed engorgement of vessels by reducing the area of connective tissue stroma of terminal villi and disappearance of edematous phenomena in the placental tissue stroma.

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