

penetrated by the middle upper posterior nasal branches, which rise from the pterygopalatine node. They follow a straight course and are found in the mucous membrane of the nasal septum.

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FEATURES OF TRAINING AND CERTIFICATION OF FORENSIC NURSES IN UKRAINE: INTERNATIONAL CONTEXT

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Introduction. The modern system of providing assistance to victims of violence in Ukraine needs to be improved, in particular through the separate provision of forensic medical examination and medical care. This approach is not trauma-oriented and does not meet international standards, enshrined, in particular, in the Istanbul Convention. One of the ways to solve this problem is the implementation of the specialty “forensic nurse”.

The aim of the study. To investigate the possibilities, features and conditions of certification of forensic nurses in Ukraine, based on the analysis of international experience, in particular, training programs in the USA.

Material and methods. The work is based on an analysis of literary sources and the “Final Report on the Assessment of Needs in Forensic Nursing in Ukraine” of the International Association of Forensic Nurses (IAFN). Analytical, descriptive and bibliographic research methods were used.

Results. It was established that the educational training of forensic nurses should be based on a multidisciplinary approach involving specialists in forensic medicine, law enforcement agencies and human rights organizations. The most effective model is postgraduate education after obtaining a basic certificate in the specialty “Nursing”. Key requirements for certification, according to international standards (for example, SANE), include: a valid license, clinical experience, completion of a specialized theoretical course (at least 40 hours) and supervised clinical practice (about 300 hours).

Conclusions. The introduction of the forensic nursing specialty in Ukraine is a promising direction for improving the quality of care for victims of violence. This requires legislative consolidation of the role of such a specialist, the development of adapted training programs, and the implementation of a certification system that meets international standards.

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STUDY OF THE REGULATION OF PROLIFERATIVE ACTIVITY AND TROPHOBLAST CELL DEATH

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Introduction. Damage to the surface of the trophoblast induces stimulation of proliferative processes. Researchers suggest that iron deficiency anaemia in pregnancy (IDAP) leads to hypoxia and, consequently, to alterations in the trophoblast surface.

Aim of the study. To determine the adaptive and compensatory mechanisms of the trophoblast in response to chronic hypoxia.

Material and methods. The study design consisted of two main groups and a control group. A series of immunohistochemical reactions was performed using mono- and polyclonal antibodies (DakoCytomation, Denmark–USA): pro-apoptotic protein Bax (Polyclonal Rabbit Anti-Human Bax); anti-apoptotic protein Bcl-2 (Monoclonal Mouse Anti-Human BCL2, Clone 124); proliferative nuclear antigen Ki-67 (Monoclonal Mouse Anti-Human MIB-1). Statistical significance was determined at $p \leq 0.05$.

Results. The proportion of Ki-67–positive nuclei in the trophoblast of chorionic villi (CV) was significantly higher at both gestational ages studied compared with physiological pregnancy ($p < 0.001$). Between the two gestational periods, Ki-67–positive nuclei in trophoblasts also differed significantly ($p < 0.001$). The highest frequency of Ki-67–positive trophoblast nuclei was observed

in women with IDAP and chorionic villous structures corresponding to gestational age. No significant differences were found between study groups and physiological pregnancy with regard to optical density of immunohistochemical staining for the anti-apoptotic protein Bcl-2 in trophoblast cytoplasm ($p > 0.05$). However, enhanced production of the pro-apoptotic protein Bax in trophoblast CV was observed at both gestational periods in women with IDAP (Table). Bax levels in trophoblast cytoplasm were significantly higher than in physiological pregnancy ($p < 0.001$), and intergroup comparisons also demonstrated statistically significant differences between the two gestational periods ($p < 0.001$).

Table

Regulation of proliferative activity and trophoblast cell death ($M \pm m$)

Study groups	Ki-67-positive nuclei in trophoblast CV (%)	Optical density of IHC staining for Bcl-2 (rel. units)	Optical density of IHC staining for Bax (rel. units)
Group 3 (control), n=21	3 ± 0.1	0.326 ± 0.0016	0.264 ± 0.0015
Group 1 (29–32 weeks), n=20	75 ± 1.8 ($p_3 < 0.001$; $p_2 < 0.001$)	0.321 ± 0.0016 ($p_3 > 0.05$; $p_2 > 0.05$)	0.345 ± 0.0015 ($p_3 < 0.001$; $p_2 < 0.001$)
Group 2 (33–36 weeks), n=20	62 ± 1.5 ($p_3 < 0.001$)	0.322 ± 0.0017 ($p_3 > 0.05$)	0.364 ± 0.0015 ($p_3 < 0.001$)

Note. p_3 – probability of differences with control group (Group 3); p_2 – probability of differences between Groups 1 and 2. Relative units of optical density (rel. units).

Conclusions. Organometric, histological, histochemical, and immunohistochemical studies conducted among women with normal maturation of the placental chorionic villous tree combined with IDAP at two gestational periods (29–32 and 33–36 weeks) demonstrated that iron deficiency anaemia in pregnancy directly affects placental villous development by enhancing trophoblast proliferation in response to chronic hypoxia.

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HISTOLOGICAL STUDY OF THE PLACENTAL VILLOUS TREE IN CHRONIC BASAL DECIDUITIS AND IRON DEFICIENCY ANEMIA OF PREGNANT WOMEN

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Introduction. Our previous studies have shown that the combination of chronic inflammation of the basal plate with iron deficiency anemia (IDA) in pregnant women exerts a dual damaging effect on the placenta. Chronic basal deciduitis leads to impaired uteroplacental circulation, while anemia aggravates ischemic and hypoxic processes. Since the villous component is the main morphofunctional unit of the placenta, its damage determines the severity of placental insufficiency. The study of villous tree alterations in the combination of these pathologies provides deeper insight into the mechanisms underlying its development.

The aim of the study. To study the morphological features of the placental villous tree in chronic basal deciduitis and iron deficiency anemia in pregnant women.

Material and methods. A total of 82 placentas were examined. The material was fixed for 48 hours in 10% neutral buffered formalin, followed by standard dehydration and paraffin embedding. Serial 5 µm sections were prepared and stained with hematoxylin and eosin, as well as by the Slynchenko method to assess connective tissue structures.

Results. In cases of chronic basal deciduitis, the basal plate was thickened, with focal lymphocytic and plasmacytic infiltration and occasional macrophage admixture. The walls of the spiral arteries showed sclerosis and foci of hyalinosis, with luminal narrowing. The villous tree demonstrated signs of distal hypoplasia. The villi varied in size, predominantly medium- and small-diameter, with a reduced number of terminal villi and elongation of intermediate ones. Moderate stromal edema, focal compaction of connective tissue elements, and early fibrotic changes were