здорових осіб. Контроль результатів лікування здійснювався через 6 та 12 місяців, шляхом опитування та об'єктивного обстеження хворих.

З-поміж 20 обстежених хворих, які додатково до основного лікування приймали препарат L-аргініну, загострення холециститу, впродовж наступних 6 місяців після проведеного лікування, зареєстровано у 4 хворих (20,0% від кількості пацієнтів групи). У найближчі 12 місяців після лікування 9 хворих основної групи звернулись за медичною допомогою у зв`язку з загостренням ХНХ, що складало 45,0% від кількості пацієнтів у групі. В середньому період ремісії у хворих основної групи складав 6,5±1,0 місяць.

Серед 16 пацієнтів групи порівняння у перші 6 місяців після проведеного лікування у 9 хворих (56,3% від кількості пацієнтів у групі) відбулося загострення запального процесу у жовчному міхурі, впродовж 12 місяців таких хворих було 12 осіб, що складало 75,0% від загальної кількості пацієнтів у групі. Середня тривалість ремісії у хворих групи порівняння становила 4,75±1,5 місяці.

У результаті проведених обрахунків використовуючи метод відношення шансів (OR) встановлено, що у пацієнтів основної групи ризик виникнення загострення ХНХ впродовж перших 6 місяців після проведеного лікування був достовірно нижчим у 5,14 рази (OR = 5,14,95% ДІ 1,18 – 22,48), порівняно з хворими, які отримували лише базисну терапію. Ризик виникнення загострень ХНХ у пацієнтів впродовж 12 місяців після лікування достовірно не відрізнявся між обстеженими обох груп, що вказує на необхідність призначення повторних курсів обраної терапевтичної схеми.

Внаслідок проведеного відстроченого контролю результатів лікування доведено, що для хворих на гіпотиреоз із супутнім хронічним некаменевим холециститом, які додатково до базисної терапії отримували L-аргінін, властиве зменшення частоти повторних загострень хронічного холециститу впродовж наступних 6 місяців після проведеного лікування та довший період ремісії хронічного холециститу.

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PECULIARITIES OF RENAL FUNCTION DISORDERS IN CASE OF DIABETES MELLITUS TYPE 1

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Diabetic nephropathy (DN) is one of the most severe complications of diabetes mellitus (DM), which dramatically decreases the life quality of diabetic patients. Nowadays it is considered that a principal role in the development and progression of DN belongs to untreated or insufficiently managed hyperglycemia that triggers the sequence of metabolic disorders and, as the result, leads to the disturbance of intrarenal hemodynamics, elevation of hydrostatic pressure in glomerular capillaries and hyperfiltration. Persistent influence of hyperglycemia results in the reduction of synthesis of glucosaminoglycans, which are the ground of glomerular basement membrane structure and provide its selective permeability for proteins. These precise changes of protein excretion by urine – from microalbuminuria and to steady proteinuria, – disorders of renal filtration function with the reduction of glomerular filtration rate, are considered to be the classic clinical orientations of DN, followed by microhematuria and cylindruria, hyposthenuria, arterial hypertension, oedema, hypochromic anemia and hypoproteinemia. At the same time, the presence of above-mentioned symptoms signifies the irreversibility of the renal tissue structural changes and reveals already existing disorders of renal hemodynamics, but doesn't enable to predict and prognosticate the beginning of their development. Thus, the issues of investigation of informative pathogenetical markers of the initial stages of DN with the purpose of timely renoprotective influence for the diabetic kidney become of a great importance.

The objective of this study was to define the peculiarities of renal function disorders in patients with diabetes mellitus type 1.

11 patients with DM type 1 (73% of women and 27% of men, mean age – 41,0±3,13 years) and 10 healthy individuals, who constituted the control group, participated in the study.

The verification of the diagnosis and disease severity was based on the acting national and international regulating documents. According to the results of a comprehensive patients' examination severe form of the disease was identified in all enrolled patients (including cases of its duration for less than 5 years). In 2 of the enrolled patients the duration of diabetes was less than 5 years (2,2±1,85 years), in 5 participating individuals diabetes lasted for 6-10 years (8,0±0,63 years), 4 of participants suffered from diabetes longer than 10 years (18,3±3,66 years). All participating patients were at the subcompensation stage of the disease, achieved by hypoglycemic treatment – oral hypoglycemic agents (4% of examined patients), combined therapy (52% of examined individuals), insulin «basis-bolus» administration.

A comprehensive patients' examination included methods of study of renal functioning changes under conditions of spontaneous night 12-hour diuresis by clearance-method as well as generally accepted clinical and laboratory-instrumental techniques [Mahalias V.M., Mikheiev A.O., Rogovoy Yu.Ye. et al., 2001].

The analysis of carbohydrate metabolism parameters revealed 2,7-fold elevation of fasting glycemia in the patients as compared to the group of healthy individuals ($P<0,001$), followed by glucosuria level 19,50±1,39 g/L.

The analysis of changes of kidney functional state parameters in the examined patients has revealed the signs of hyperfiltration and polyuria, typical for the initial stages of DN: 1,8-fold increased diuresis ($P<0,001$) as well as elevation of GFR, which exceeded the control level by 2,6 times ($P<0,001$), were observed, despite the absence of substantial changes of water reabsorption. Furthermore, urine content of protein in diabetic patients 1,8-folds exceeded its control level ($P<0,001$), being markedly indicative of the initial stages of DN in the patients involved into the study.

The increase of glomerular filtration consequently leads to the elevation of filtration load of the nephron: filtration charge of sodium is found to be increased by 1,9 times (P<0,001), sodium excretion – absolute (by 3,7 times, P<0,001) as well as standardized in volume of glomerular filtrate (by 1,9 times, P<0,001) is reliably raised, that causes the loss of this electrolyte by the body considering the tendency to augmentation of urine sodium concentration (by 2,1 times, P<0,001). According to the ratio of sodium and potassium concentrations in the urine of the examined patients, the excretion of the latter one prevails – ratio coefficient of urine concentrations of sodium and potassium in patients with DM type 1 3,3-folds exceeds the level of healthy individuals (P<0,001), accompanied by a reliable decline of potassium concentration in the urine of the examined patients (by 1,5 times, P<0,01).

Reliable 1,3-fold elevation of urine pH in diabetic patients (P<0,001), accompanied by a substantial intensification (by 2,1 times, P<0,001) of the release of ammonia and titrated acids are indicative of the activation of acid-excretory renal function and mobilization of reserve mechanisms.

Glomerular hyperfiltration, attributive to the initial stages of diabetic nephropathy, is followed by the enhancement of filtration sodium load to the nephron. Under conditions of osmotic diuresis, caused by hyperglycemia and glucosuria, the impairment of proximal and distal transport of tubular fluid and sodium results in significant natriuresis. Intensification of urine acidification processes develops despite the inhibition of sodium-dependent ammonia- and acidogenesis, contributing to the progression of renal dysfunctions in case of diabetes mellitus.

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THE STATE OF PRO- AND ANTIOXIDANT SYSTEMS OF KIDNEYS IN CASE OF EXPERIMENTAL HYPERTHYROIDISM

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Nowadays a great attention is paid to the study of free radical oxidation processes, which can be considered both as adaptation body reaction and as a universal mechanism of alteration of biostructures in case of pathology, including thyroid ones. Pluripotent influence and universality of biologic effects of thyroid hormones determines the close connection between their level and the intensity of free radical oxidation, lipid and protein peroxidation processes non-specific markers of the dysfunction of the inner organs, including kidneys. Functional condition of the latter is known to influence all metabolic processes in the body. The fact of mutual influence of thyroid status of the body, lipid and protein peroxidation processes and renal function status is undisputed. The investigation of peroxidation processes and antioxidant system state (AOS) in the renal tissue in case of thyropathy will widen the possibilities of targeted pathogenic corrective influence on the initial stages of renal dysfunction in order to prevent its chronization.

The objective of this study was to establish the character of influence of thyroid hormone excess on the processes of lipid and protein peroxidation in the renal tissue.

The experiments were carried out on 28 matured nonlinear male rats under standard vivarium conditions. For the experimental modeling of hyperthyroidism 18 animals were administered to L-thyroxine («Berlin-Chemie AG», Germany) intraperitoneally in the dose of 200 μg/kg. 14 days after the beginning of pathology formation 18 hypothyroid rats and 10 animals of the control group were euthanized by decapitation under the slight diethyl ether anesthesia. The object of the research was renal tissue, removed, washed out of blood and homogenized for the further investigations right after animals' decapitation.

The state of lipid peroxidation (LPO) was assessed by quantification of malondialdehyde (MDA) and diene conjugates (DC), antioxidant protection – by the contents of enzymatic (superoxide dismutase (SOD), catalase (CT), glutathione peroxidase (GPO)) and non-enzymatic systems (glutathione S-transferase (GST), sulfhydryl groups (SH-groups). Dinitrophenylhydrazones (DPH) concentration was determined to assess the intensity of protein oxidative modification (POM).

The data obtained were statistically processed with the establishment of Student's coefficient (t).

As the results of the investigation showed (table), MDA level in renal tissue of hyperthyroidal rats was twice higher as compared to the control parameters (p<0,001). DC contents was found to be increased as well. The activity of SOD in the renal tissue of hyperthyroidal rats reliably decreased by 46,4% as compared to the control level, GPO – by 29,0%, whereas the activity of such antiradical enzymes as CT (by 53,9%) and GST were found to be elevated. Such biochemical changes are significant of the exhaustion of the enzymatic intrarenal antioxidant system. Though there were no changes of SH-groups level, found in renal tissue, the contents of neutral and basic DPH in the renal tissue was elevated by 80,6 и 76,0 respectively. Accumulation of the latter evidences, that the intensity of free radicals generation in the renal tissue of hyperthyroidal rats tends to become excessive regarding the compensatory intrarenal antioxidant system, resulting in the intensification of POM processes.

The findings mentioned above evidence, that due to the exhaustion and failure of the compensatory intrarenal antioxidant system, the intensity of accumulation of lipid and protein peroxidation end-products in the renal tissue of hyperthyroid rats tends to become excessive, causative of renal dysfunction, reduction of glomerular filtration rate, proteinuria, increased permeability of renal basic membranes, decrease of renal blood flow and tubular sodium reabsorption. Their high nephrotoxicity may lead to the ischemic, toxic or immunologic damage of the renal tissue.