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Анализ некоторых показателей оксидативного стресса у студентов с начальным-I степенью генерализованного пародонтита

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Резюме. Заболевания тканей пародонта является одним из наиболее широко распространенных заболеваний человека. Развитие заболеваний тканей пародонта (генерализованных пародонтита) зависит от многих местных и системных факторов риска. Важное место отводится возникновению заболеваний тканей пародонта на фоне нарушения нормального функционирования систем антиоксидантной защиты, что приводит к развитию окислительного стресса и дисфункции клеток и тканей ротовой полости. Целью исследования было определить некоторые показатели оксидативного стресса у студентов 2 курса медицинского университета с начальной-I степенью генерализованного пародонтита. Для оценки уровня оксидативного стресса использовали такие показатели как: малоновый альдегид (МДА), СОД (супероксиддисмутазы) и глутатионпероксидаза. Результаты обследования показали, что оксидативный стресс играет важную роль в патогенезе заболеваний тканей пародонта.

Ключевые слова: генерализованный пародонтит, оксидативный стресс, студенты-медики.

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The Analysis of Some Indicators of Oxidative Student's Stress with an Initial-I Stage of Generalized Periodontitis

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Abstract. Periodontal tissue disease is one of the most widespread human diseases. The development of periodontal tissue diseases (generalized periodontitis) depends on many local and systemic risk factors. An important place is the emergence of diseases of periodontal tissues against the background of a violation of the normal functioning of antioxidant defense systems, which leads to the development of oxidative stress and dysfunction of cells and tissues of the oral cavity. The aim of the study was to determine some indicators of oxidative stress in 2-year students of a medical university with an initial-I degree of generalized periodontitis. To assess the level of oxidative stress, indicators such as malonic aldehyde (MDA), SOD (superoxide dismutase) and glutathione peroxidase were used. The results of the study showed that oxidative stress plays an important role in the pathogenesis of periodontal tissue diseases.

Key words: generalized periodontitis, oxidative stress, medical students.

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Clinical Peculiarities of the Mixed-Invasion of Giardiasis and Ascariasis

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Abstract. Intestinal parasitic diseases are widespread in the territory of almost the entire globe. Among them the most common are giardiasis and ascariasis. In recent years, more and more cases of combined invasion by these organisms have been registered.

The objective of the research was to study the clinical peculiarities of the course of giardiasis and ascariasis in patients with combined invasion.

Materials in the methods. There were 42 patients under observation, who were divided into 3 groups. The first group (n=14) included patients with giardiasis, the second one (n=14) – patients with ascariasis, the third group (n=14) included patients with mixed infection of giardiasis and ascariasis.

Results. The main clinical syndromes in patients with giardiasis, ascariasis and patients with mixed invasion by both pathogens have been analyzed. In all groups of patients, the manifestations of dyspeptic syndrome were most frequent. Signs of an allergic syndrome were observed as a polymorphic rash on the skin. Data on astheno-neurotic

and intoxication syndromes took place somewhat less frequently.

Conclusions. Clinical manifestations in patients with mycobacterial invasions of giardiasis and ascariasis were reported more frequently than in patients with monoinvasion, and more pronounced polymorphism was observed.

Problem statement and analysis of recent research.

Parasitic diseases are widespread in the territory of almost the entire globe and in Ukraine. In recent years, more and more cases of combined invasion by these organisms have been registered [11, 17].

Among the protozoal intestinal diseases the most common is giardiasis. Giardiasis is a parasitic disease that is spread almost everywhere, including in Ukraine. According to the World Health Organization (WHO), one tenth of the world's population is invasive with lamblia [3].

Clinical manifestations of giardiasis can be manifested as multiple organ symptoms and, as a rule, are not specific. Initially there is a damage of the gastrointestinal tract, which may be manifested by the signs of dyspeptic syndrome [4]. Later signs of endogenous intoxication may be noted [1, 9]. For giardiasis, there may also be characteristic allergic manifestations, which are most often shown by lesions from the skin [6].

Ascariasis is one of the most common intestinal helminthiasis. The causative agent *Ascaris lumbricoides* belongs to nematodes. The mechanism of transmission is fecal-oral. It can be implemented by food, water and contact-household [5].

One of the most common intestinal helminthiasis is ascariasis. In the life cycle, the migration and intestinal phase are represented, which further determine the clinical picture. The migration phase is characterized by the development of larvae that enter the lungs and cause lesion of the respiratory system [10]. At this time, the disease is diagnosed rarely, as often take ascariasis for another disease. The intestinal phase is accompanied by typical signs of gastrointestinal tract infection in helminthiasis, which are also not specific [14, 15].

Also, for ascariasis, manifestations of astheno-vegetative syndrome are characteristic. The intensity of manifestations depends on the amount and size of the pathogen. [16].

Allergic manifestations are more often noted in the migration phase, although they may occur during the intestinal phase. They are accompanied by skin lesions in the form of polymorphic rash [8, 12].

Among the cases of parasitic mix-invasion, the most frequent combination of giardiasis and ascariasis is observed. Clinical picture of combined invasion can be characterized by symptoms of giardiasis and ascariasis, and the presence of new symptoms. This suggests that mixed parasitosis may be accompanied by a more severe course and an increase in the probability of complications in patients [13]. Since not all clinical peculiarities of the combined invasion are currently not sufficiently described, there is a need for a more detailed study of them. In a combined invasion of ascariasis and giardiasis, the clinical picture is usually characterized by a severe course and an increase in the incidence of complications in patients. [13].

The objective of the study

To reveal the peculiarities of the course of giardiasis and ascariasis in patients with combined invasion based on the analysis of clinical syndromes.

Materials and methods of research

There were 42 adult patients with an average age of 29.2 ± 0.8 years under observation. Among the surveyed, 19 (46.9%) men and 23 (53.1%) women. In rural areas there were 15 (40.6%) patients, in urban ones – 27 (59.4%). Diagnosis of giardiasis and ascariasis was confirmed by detection of a pathogen in feces by microscopy.

All patients were divided into 3 groups, equal in age and gender. The first group (n=14) included patients with giardiasis, the second one (n=14) – patients with ascariasis, the third one (n=14) – patients with mixed infection of giardiasis and ascariasis. The dynamics of clinical syndromes, their duration was estimated.

Results and their discussion

In the clinical picture of patients with giardiasis (group I) the following syndromes were dominant: dyspeptic, allergic, astheno-neurotic, intoxication.

In part of patients with ascariasis, giardiasis was diagnosed after a re-examination (21.4%). Ascariasis (14.3%) was also

detected in 2 patients with primary diagnosis of giardiasis, after second examination.

In patients with giardiasis (group I) the main part was dyspeptic syndrome (71.4%). Patients complained of severity in the mesogastric region (57.4%), periodic nausea (50.0%), loss of appetite (57.4%), abdominal distension (42.9%), watery stool 3-5 times a day (35.7%), which were replaced by constipation (14.3%). Objectively, pain was localized in the paraumbilical region (42.9%).

In some persons (6 patients - 42.9%) were present signs of hepatobiliary pathology, which had manifestations of cholecystitis, cholecystocholangitis. Such patients complained of periodic pain in the right hypochondrium (35.7%) and bitterness in the mouth (28.6%). The presence of cholecystocholangitis was indicated by positive bladder symptoms in 4 patients (28.6%).

Signs of allergic syndrome in this group of patients were rare (6 patients - 42.9%). Among the most allergic manifestations, the appearance of a polymorphic rash on the skin was the most characteristic (5 patients - 35.7%). There were signs of acute urticaria in 2 patients (14.3%).

Parasitism of lamblia was accompanied by neurotic symptoms in 5 patients (35.7%). Patients complained of weakness (35.7%), rapid fatigue (35.7%), irritability (28.6%). The depressed mood was observed in 4 patients (28.6%). It is no coincidence that professor DF Lambie called the discovered microorganism "parasite sadness and sorrow" [6]. Changes from the nervous system were the only clinical manifestations of the disease in 2 patients (14.3%).

Complaints of fever up to subfebrile level (14.3%) were noted in 2 patients.

In the clinical picture of patients with ascariasis (group II), there were also dyspeptic manifestations, but they are found little less frequently than in patients with giardiasis (9 patients - 64.3%). Patients complained of decreased appetite (57.1%), nausea (50.0%), vomiting (28.6%). Pain syndrome (42.9%) was also typical, patients complained of pain in the epigastric, paraumbilical and right hypochondrium regions. Some patients could not clearly locate pain (14.3%). Six patients (42.9%) complained of stool disorders. So, in 3 patients (21.4%) there were complaints of constipation, and 2 patients (35.7%) had diarrhea. One patient (7.1%) noted diarrhea, which was replaced by constipation.

Six patients (42.9%) had complaints of the hepatobiliary system. Symptoms of cholecystitis, cholecystocholangitis were periodic pain in the right hypochondrium (35.7%), bitterness in the mouth (28.6%) and positive biliary symptoms in 3 patients (21.4%).

Signs of allergic syndrome, on the contrary, were more pronounced in patients with ascariasis (7 patients - 50.0%). The most frequent was the presence of constant skin itching (35.7%), erythema of the skin (21.4%), rhinitis (21.4%), urticaria (14.3%), conjunctivitis (14.3%) and blepharitis (7.1%). Two patients (14.3%) had atopic dermatitis. A frequent symptom of ascariasis was a defeat of the red rim of the lips (3 patients - 21.4%). In 2 patients there were changes in the state of hair (14.3%), including alopecia.

Four patients were found signs of astheno-neurotic syndrome (28.6%). Most often it was general weakness (28.6%), increased fatigue (28.6%), irritability (21.8%). Also, sleep disturbances (insomnia) were noted in 2 patients (14.3%).

Table 1. The main clinical syndromes in giardiasis, ascariasis and mixed parasitosis

Syndrome	I group (n=14)	II group (n=14)	III group (n=14)
Dyspeptic	10 - 71.4%	9 - 64.3%	13 - 92.9%
Allergic	6 - 42.9%	7 - 50.0%	10 - 71.4%
Astheno-neurotic	5 - 35.7%	4 - 28.6%	9 - 64.3%
Intoxication	2 - 14.3%	3 - 21.4%	7 - 50.0%

Signs of intoxication syndrome, characterized by a subfebrile increase of body temperature, were observed in 3 patients (21.4%).

The third group consisted of patients with ascidiosis and giardiasis mixed-invasion. Most of them had complaints of the gastrointestinal tract (13 patients - 92.9%), which are 1.3 times more likely than patients in group 1 and 1.4 times more than in patients in group 2 (Table 1). Patients were disturbed by nausea (85.7%), vomiting (35.7%), striation (28.6%) and heartburn (21.4%). There are frequent changes in appetite. In 6 patients (42.9%) it was lowered, but there was an increase of appetite in 3 patients (21.4%). Also, changes in the nature of the intestinal discharge, accompanied by an increase in frequencies up to 5 times a day (71.4%), were replaced by constipation (57.1%), steatorrhea (21.4%). In the objective examination of patients, changes such as tongue-deposited yellow tongue (85.7%), moderately bloated abdomen (71.4%), tenderness in the navel region (57.4%) are more often detected. In addition to the severity and pain in the epitope and mesogastric region (85.7%), which occurred during monoinvasia, in the combination of ascariasis and giardiasis, pain was also manifested in the right and left idiopathic sites (50.0%).

Changes in the hepatobiliary system are characterized not only by cholecystitis and cholangitis, but also by liver damage (64.3%). The clinical picture was accompanied by the presence of severity and pain in the right hypochondrium (50.0%), bitterness in the mouth (35.7%), and a slight skin irritation (28.6%).

The clinical picture was characterized by the predominance of allergic skin reactions in 10 patients (71.4%), which occurred 1.7 times more often than in patients in the I group and 1.4 times more than in patients in the second group. Patients showed a symptom of skin lesions. Follicular drip hyperkeratosis – a frequent symptom in patients clinically represented by follicular papules and “goose skin”, was noted in 3 patients (21.4%). In some cases, uneven coloration of the skin (“multi-colored skin”) was observed (14.3%). In 5 patients (35.7%), the skin became icteric-pink, there was dryness. Some other changes in the skin, such as wavy pigmentation of the neck skin, pallor and subicteric tint of the nasopharyngeal triangle, appeared in 2 patients (14.3%).

Signs of astheno-neurotic syndrome were observed in 9 (64.3%) patients, which was 1.8 times more frequent than in patients in the 1st group and 2.3 times more than in patients in the second group. In addition to irritability (64.3%), general weakness (64.3%) and increased fatigue (64.3%) that were appeared with monoinvasion, headache (28.6%), dizziness (28.6%), pain in the area of the heart (21.4%), mood impairment (21.4%), frequent sleep disorders (21.4%). 2 patients (14.3%) had memory and attention disorders.

Intoxication syndrome occurred in the clinical picture of half of the patients (50.0%), which was manifested 3.5 times more

than in patients in the 1 group and 2.3 times in comparison with patients in the 2 group. Patients noted an increase in body temperature at the subfebrile level.

By analyzing the results obtained, a comparison can be made with previous studies. The clinical picture of monoinvasion of giardiasis was typical, and in general terms, corresponded to the data previously described in the literature [7, 8, 9, 10, 12, 14]. The isolation of prevailing clinical syndromes, such as dyspeptic, allergic, astheno-neurotic and intoxication, that occurred in the study group of patients, was in line with the latest recommendations of leading parasitologists. Comparing the percentage of manifestations of these syndromes, it should be noted that most authors also point to the predominant presence of dyspeptic and allergic syndrome, while in the group under study, a significant proportion is astheno-vegetative and intoxication syndromes [2, 3, 4, 11].

As to the state of intestinal motility, the prevailing part of the research indicates an accelerated peristalsis and fluid excrement up to 5 times a day. Some authors note that in the background of giardiasis, constipation may occur. However, recently, most scientists have concluded, which is confirmed by the results of our study that for this disease may be characterized by the presence of diarrhea that change with constipation [6, 13].

Recently, more and more data on the study of combined invasion has appeared. Among helminthiasis, enterobiasis, ascariasis and hymenolepidosis are most often described. The combined invasion is most often characterized by a combination of two pathogens, but cases of invasion by three or even more pathogens have been described. In contrast, there is evidence that some parasites are natural antagonists, and the presence of one of them is an exclusion factor for another and vice versa. The combination of giardiasis and ascariasis is more and more often described in literature, which indicates the relevance of this study [5, 13].

Despite the above-mentioned works, more attention is paid to research mono and mixed invasion mainly in children. Clinical studies in adults have also been considered, but the manifestations of one of the syndromes have been described in detail, but other symptom-complexes [4, 6, 9] have been analyzed in detail in this study.

The results of our study correlate with the data that suggest that the more severe course of the disease and more pronounced polymorphism syndromes in the presence of two pathogens, because their pathological effects can be mutually complementary [5, 13].

At the same time, when the signs of allergy were described in detail in monoinvasion as giardiasis, and ascariasis, the manifestations of this syndrome in adults with mixed parasitosis were not analyzed. The data of our work was compared with similar studies, and indicate a more severe course of mixed infection, but it should be borne in mind that most of them were performed among infants [6].

Conclusions

1. The course of giardiasis and ascariasis is characterized by multiple organ symptomatology with clinical manifestations of dyspeptic, allergic, astheno-neurotic and intoxication syndromes.
2. Mixed invasion of ascariasis and giardiasis are characterized by more severe course of the disease and a more pronounced polymorphism of clinical manifestations compared with monoinvasia (the dyspepsia syndrome was noted in 92.9%,

the allergic syndrome in 64.3%, the asteno-neurotic in 64.3%, intoxication syndrome in 50% of patients).

3. Patients with monoinvasion, whose clinical picture is characterized by pronounced polymorphism, are recommended to perform the examination in the presence of other parasitic diseases.

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Diagnosics and Minimally Invasive Surgery for Achalasia Cardia

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Abstract. The objective of the research was to assess the effectiveness of balloon pneumatic dilation and laparoscopic Heller myotomy in treatment of patients with achalasia cardia.

Materials and methods. Twenty-one patients with achalasia cardia were examined and treated using pneumatic balloon dilation and laparoscopic Heller myotomy in the Department of Surgery from January 2016 to April 2018. There were 8 (38.1%) men and 13 (61.9%) women at the age of 28 to 75 years (the average age was 51.47 ± 3.63 years) and disease duration of 1 month to 8 years (the average disease duration was 3.05 ± 0.49 years).

Results and discussion. With the help of radiological methods of examination, all the patients were divided into 4 groups according to the esophageal diameter: Group I included 5 (23.8%) patients with the esophagus up to 4-5 cm in diameter; Group II comprised 6 (28.6%) patients with the esophagus up to 4-6 cm in diameter; Group III included 5 (23.8%) patients with the esophagus up to 6-8 cm in diameter; Group IV consisted of 5 (23.8%) patients with the esophagus of more than 8 cm in diameter and an S-shaped configuration. A significant decrease

in the diameter of the esophagus according to fluoroscopy ($p < 0.05$) alongside with a decrease in the lower esophageal sphincter pressure according to manometry are indicative in assessing the effectiveness of achalasia cardia treatment after minimally invasive surgery. There were no complications when performing pneumatic balloon dilation and laparoscopic Heller myotomy.

Conclusions. In 7 (33.3%) patients, recurrences of achalasia cardia after balloon pneumatic dilation occurred within 2 - 10 months: in 4.7% of patients in Group I and 9.5% of patients in Group II, Group III, and Group IV. In recurrent achalasia cardia, repeated dilation was ineffective. There was performed laparoscopic Heller myotomy with Dor fundoplication, which was effective in 80.0% of cases.

Keywords: *achalasia cardia; diagnostics; balloon pneumatic dilation; laparoscopic Heller myotomy, relapses.*

Problem statement and analysis of the recent research

Achalasia cardia (AC) is a disorder characterized by impaired