

ear cress), Soybean trypsin inhibitor A - I3A, Maize Trypsin/factor XIA inhibitor - I6, Bitter gourd trypsin inhibitor 1 - I7, Rice cysteine proteinase inhibitor 1 - I25B, Wheat subtilisin-chymotrypsin inhibitor WSCI - I13 and Soybean Bowman-Birk type proteinase inhibitor - I12.

Bioinformatics study reveals common and particular features in the primary and 3D-structures of selected animal and plant serpins. Plant serpins amino acid chain usually consists of 100-200 amino acids. Animal serpins - components of hemostasis and fibrinolysis systems typically are nearly two times larger and contain 400-500 amino acids in comparison with protease inhibitors such as basic pancreatic trypsin inhibitor (BPTI), which is about 60 amino acids. In spite of the poor sequence homology between family members, serpins share a highly conserved core structure near C-terminal that is critical for their functioning as serine protease inhibitors. This conserved domain consists of nearly 20 amino acids and include reactive center loop (RCL) or reactive site loop (RSL). For Conserved Protein Domain Family C1 the following sequence of amino acids is very typical GVEAAAASAI SVARTILLVFEVQQP (in FASTA format). It is common that the active site of serpins contains two amino acids (P2-P1). The positively charged residue Arg is by far the most common P1 residue among plant serpins and that a large number of serpins have Leu at P2. The "LR serpins", which are those with P2- P1 Leu-Arg-X, where X is a small residue (Ser, Cys, Ala, Gly), are very widespread in the plant kingdom. Nearly 40% of the LR serpins have a positively charged residue at P3, and most of the remainder have hydrophobic or small/polar residues at this position. 3D-structures of serpins are made up of three β sheets (A, B and C) and 8-9 α helices (termed hA-hI) and a RLC containing a specific bait sequence for the serpin's target proteinase(s).

The common features in the structures of plant serpins and serpins of hemostasis and fibrinolysis revealed with a help of bioinformatic approaches proves the possibility of creating of new drugs designed for the correction of hemostasis and fibrinolysis disturbances on the base of plant serpins.

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ENZYME-LINKED IMMUNOSORBENT ASSAY IN THE DIAGNOSIS OF HELMINTHIASIS IN CHILDREN

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The topic is relevant due to the fact that against the background of economic change, environmental degradation, inadequate and unbalanced nutrition, psychological stress associated with school pressures and social tensions, widespread use of various medications are more common disturbances of the adaptation processes and many well-known diseases change their clinical picture, including diseases caused by various parasites. Over the past 15 years this index has increased by 85.6% and in 2006 amounted to - \$ 84.1 per 100 thousand population and has no tendency to decrease. Among patients more than 60% are children, the incidence of cases since 1991 has increased 2.5 times and in 2006 amounted to 355,8 per 100 thousand children under 14 years. Young children are affected 3 times more often than adults.

Distinguish risk factors that contribute to invasion: poor maintenance of the population with safe drinking water, pollution of open waters untreated sewage, unbalanced nutrition in the form of increased consumption of easily digestible carbohydrates on the background of a significant deficit of protein, hypochlorhydria, dyscholia, high intensity parietal digestion, inherent in children, intestinal microflora after treatment with antibiotics (especially with multiple courses).

Not always parasitic diseases occur with obvious clinical symptoms. Often are asymptomatic. Common symptoms: nausea, vomiting, weakness, diarrhea, abdominal pain without clear localization, toxic-allergic reactions, hepatosplenomegaly, painful bouts of coughing and choking, retarded mental and physical development.

The aim of our study using ELISA to identify children who have elevated titers of antibody to various parasites.

The principle of the method. Method for the determination of immunoglobulin G to antigens of parasites is a solid phase ELISA, in which in the interaction of the examined blood serum samples in the wells of strips with immobilized antigens of parasites occurs at specific binding and complex formation of "antigen-antibody" on the surface of the hole. After adding the conjugate to horseradish peroxidase immunoglobulins against human IgG activate an enzyme label in the immune complex. The complexes "antigen-antibody-conjugate" identified by color reaction. The colour intensity is proportional to the concentration of IgG to the relevant AG. The titer of sample serum is the highest dilution of the test sample at which its optical density is greater than or equal to the value of the diagnostic value of optical density. KP reflects how many times the optical density of the investigated serum sample more, the magnitude of the diagnostic value of optical density. The diagnostic significance of the obtained results: the diagnosis of toxocariasis, clonorchiasis, giardiasis can be exhibited in patients with titer of antibodies to antigens 1:800 and above and transmission KP> of 1.2.

Indications for screening for ELISA: diarrhea of unknown etiology; chronic disease of the gastrointestinal tract; intestinal dysbiosis; malnutrition, retarded physical development; dermatitis, urticaria, eczema, neurodermatitis; immunodeficiency States; obstructive bronchitis, bronchial asthma, Allergy unknown etiology; contact with the patient (the parasite) giardiasis, clonorchiasis, toxocariasis, and others. 72 We have analyzed the medical history of children who received examinations and treatment at the Children's city clinical hospital during the period from December 2014 to November 2015. Most of the children complained of gastro-intestinal tract: abdominal pain, nausea, loss of appetite, unstable stool, as well as complaints of frequent colds.

Table 1. Complaints.

Complaints.	%
Abdominal pain	40,17
Nausea of	13,39
Vomiting	3,57
Unstable stool of	6,25
A weight loss of	0,89
Frequent colds of	20,53
Loss of appetite of	9,82
Allergic rashes	2,67
Bronchitis, laryngitis in the history of	2,67

Of these, 52 were receiving medical examination and treatment with a diagnosis of chronic gastroduodenitis, representing 72.2 per cent. And with the diagnosis of secondary immunodeficiency 20 people (27.8 per cent). All the children conducted a study of blood by ELISA to exclude them from worm infestation, which can be the cause for most complaints. As shown by the results of the study almost 1/3 of children (29,17%) showed elevated titers of IgG to clonorchis, Toxocara, roundworm, Giardia. Of these, antibodies to Giardia identified 14.66% of cases, Toxocara – 8.52%, for clonorchis – 5.99%, for Ascaris – 1.39%, combined infestation is 4.2%. The table presents average values of the control value reflecting how many times the optical density of the examined serum specimen more than the value of the diagnostic value of optical density.

Table 2. Benchmark

Invasion	KP
Giardia	2,8
Clonorchis	1,7
Toxocara	1,5
Ascaris	3,1

A positive result of the study is considered to be $KP > 1$, which tells about the infestation of the body or that the invasion took place in the past. Given that parasitic infestations with increased levels of eosinophils, we studied this indicator in children. The mean value of eosinophils in children with the identified antibody is 2.32%, and in children with negative results of 1.2%. According to the results of IFA, children were administered anthelmintic therapy drugs: neosol, mebendazol, biltricid, praziquantel.

Conclusion. 1/3 of children, observed with a diagnosis of chronic gastroduodenitis and immunodeficiency States identified antibodies to clonorchis, Giardia, Toxocara, roundworm. Children with $KP > 1.1$ to 1.2, which may indicate infestation, it is necessary to appoint additional examination methods such as PCR, stool for detection of cysts of Giardia, Toxocara, clonorchis and others. 15.3% of cases according to the results of IFA were prescribed treatment.

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FIXATION OF ACUTE ACROMIOCLAVICULAR JOINT INJURIES (ROCKWOOD II-VI) WITH MODELED KIRSCHNER WIRE AND CORTICAL SCREW

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Introduction. Dislocation of the acromial extremity of the clavicle is a fairly common injury of the locomotor system, constituting from 3%-15% to 19% of the total number of dislocations and being the third most common dislocation after the shoulder and forearm. Those most frequently affected by these injuries are young, able-bodied people, who lead an active lifestyle and engage in sport.

The complex biomechanical relationships in the acromioclavicular joints of humans, when the biasing force is caused by the action of muscles, provoke clavicle dislocation, and ruptured capsuloligamentous apparatus is uncondusive to the maintenance of stability. All of this leads to difficulties in treatment that are naturally accompanied by a high rate of complications and relapse. To determine the optimal method of treatment, the correct biomechanical assessment of the injury to the ligamentous apparatus of the clavicle is vital, which is impossible to determine without the particular role of one or other ligament in retaining the clavicle in the correct anatomical position.

At the same time, in the available scientific literature we analyzed, there is no consensus on the degree of importance of the elements of the ligament apparatus of the acromioclavicular joint when dislocation occurs. Thus, some authors have noted the occurrence of dislocation following damage to the acromioclavicular ligament alone. Others believe that, for the occurrence of a complete dislocation, damage to both the acromioclavicular and the clavicular-coracoid ligament is necessary. However, all authors agree that damage to the acromioclavicular ligament leads to a particular violation of the relationship of the articular surfaces in the acromioclavicular joint. Thus, understanding the role of the ligamentous apparatus during rupture to the acromioclavicular joint expressed contradictions are traced. This provides a basis for the further biomechanical study of the acromioclavicular joint through the determination of the optimal location for the application and construction of the retainer for its stabilization. For the treatment of injury to the acromioclavicular, joint both conservative and operational methods are used. Different types of splints, bandages and casts came into widespread use throughout the last century. However, the imperfection of their construction, awkwardness,