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CLINICAL AND HEMATOLOGICAL INDICATIONS OF FISH PROTEIN METABOLISM DISORDERS

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Annotation:
This in the article fishes between occurring protein exchange in disorders in fish show to be clinical characters appetite loss , coxixia development growth and from development medium stay and your blood biochemical indicators protein exchange in disorders changes about data given .

Key words: protein, hemoglobin, leukocyte, osteoclasts, level of obesity, amino acids, refractometric.

Introduction:

Protein metabolism disorders are more common among fish grown in artificial ponds, unfortunately, non - communicable diseases of this species is ignored in the field.

This one disease the fish growth and from development medium leaving contagious and parasitic to diseases relatively fish organism durability reducing just send it not staying, even fishes between high level scientist to the consequences take will come Of this as a result fishing to the farm economic harm take will come.

The role of metabolism is important in the viability of a living organism, and especially in the process of growth and development of a young organism. Therefore, as a result of the lack or complete absence of certain substances in the fish feed, vital processes in the body are significantly disturbed and long-lasting diseases appear secretly in the body, which are called metabolic disorders.

In such diseases, the metabolic process in the body is disturbed to a certain extent, the body stops growing and productivity decreases [1].

The total protein requirement depends on the type and age of the fish. For example: proteins should make up 31-38% of the feed for carp, 35-40% for trout, 38-40% for crucian carp, 40-42% for African salmon and local river salmon, and up to 50% is required for young fish [2]

In a short time, the infected fish become dark or completely black, sometimes water accumulates in the abdomen and white veil covers the eyes. Fish do not receive food, the coordination of movement is disturbed, they gather on the shores with little water and die en masse [3,12].

When protein metabolism is disturbed, the amount of hemoglobin and the number of erythrocytes in the body decreases, the amount of many amino acids in the protein structure decreases, and their proportions change [4].

Protein metabolism disorders in fish occur mainly when they are fed a diet that does not meet their nutritional needs or when they are overfed. The disease is observed in fish of different ages, young fish are more susceptible [5,14].

When the liver histogram is examined, it is possible to see that the hepatocytes are covered with fat. The normal structure of liver cells is disturbed [6].

In the case of lack of proteins, the increase of leukocytes and young erythrocytes in the blood, failure of the wound flap, disturbances in the exchange of calcium, magnesium and iron substances in the body are observed. This in progress of fish the body weight and mod d a exchange in the body process very slowness with is restored [7].

When there is a lack of proteins in the body of fish, its natural resistance decreases, the spine is deformed, and it becomes difficult to heal wounds [8].

When the metabolism of proteins is disturbed, it has a great effect on the metabolism of carbohydrates in the fish body, which causes energy shortage, in addition, loss of appetite in fish, liver pathologies, decreased immunity, susceptibility to infectious and invasive diseases, fish growth and it leads to negative consequences such as retardation of development [9,11].

Protein exchange breakdown diagnosis of diseases methods and effective methods of prevention have not been developed. This, in turn, requires the development of methods of effective prevention of this pathology by introducing nutrients rich in live natural vitamins, organic, inorganic and mineral substances into the diet of fish, taking into account the economic capabilities of fisheries, the climate and local conditions of our Republic, as well as the ecological situation.

Clinical and hematological indicators in fish are of great importance in the diagnosis of protein metabolism disorders in fish grown in artificial water reservoirs of our republic.

Methods and materials: The experimental part of the research was carried out in the fishery "Narpay Quvonchbek" belonging to the Narpay district of the Samarkand region. This farm has 1 2.3-hectare and 1 3.4-hectare pond, where carp fish are grown. Clinical and hematological examinations were carried out in order to determine the presence of protein metabolism disorders among the fish.

50 fish were randomly selected from among the fish grown in the farm for the purpose of conducting inspections.

Blood samples were analyzed by generally accepted methods. General condition, appetite, degree of fatness, response to external influences, condition of Jabra valve, condition of fins and organs of movement, eye the condition of the apple was determined.

Blood samples on inspection below of methods was used.

Total calcium (complexometric method with the help of murexide), inorganic phosphorus (Ammon-Ginsburg method, IAIvanovsky modification) was determined in the blood samples taken from the fish caught as samples [10] .

Results and discussion: Based on the principle of voluntary selection, 50 fish belonging to the carp breed were selected and the tests were carried out. The results of the investigation showed that the following clinical signs of protein metabolism disorders were observed among the fish:

Figure 1 : proteins exchange as a result fish the eye to the apple blood pouring

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Relaxation of the skeletal muscles of fish, the presence of swelling in the muscles of the dorsal part of the body, decreased response to external influences, darkening of the body color, reduction of body fat, cohexia, curvature of the skull, increased fragility of the fin apparatus, retardation of growth and development. there were clinical signs such as darkening of the eyeball, the presence of hemorrhages on the skin and eyelids, the presence of swimming around the core among the fish, the deterioration of appetite, the darkening of the scales.

Figure 2 . As a result of the disorder of protein metabolism, the eyeballs of the fish become cloudy and hemorrhages in the skin cover.

When we analyzed the biochemical indicators of fish blood in the sample, we obtained the following results.

Table 1 Biochemical indicators of fish blood

No	Indicator	The result	Standard (SI unit)	
1.	Hemoglobin (HB)	65.25±3.08	75.25±4.38	g/l
2.	General protein	20.25±1.01	40.23±2.6	g/l
3.	General calcium	1.9±0.11	2.05±0.15	mmol/l
4.	Inorganic phosphorus	0.98±0.05	1.04±0.08	mmol/l

Above in the table apparently as it is blood samples common acceptance done in methods when we check , hemoglobin quantity average 65.25±3.08 g / l (normin in terms of 75.25±4.38 g / l), total protein average - 20.25 ± 1.0 g / l (normin terms of 40.23±2.6 g / l), total calcium on average -1.9±0.11 mmol / l (normin in terms of 2.05±0.15 mmol / l) and inorganic phosphorus and the average is 0.98±0.05 mmol/l

(mean in terms of 1.04±0.08 mmol/l). Organize is doing this hematological indicators of fish proteins exchange in violations. I'm on the floor from indicators less the fact that was determined.

Summary:

Deterioration of appetite, cachexia, dimming of the pupils and cornea, relaxation of the body muscles and swelling of the muscles, Clinical signs such as decreased response to external influences, retardation of growth and development, hemorrhages in the eyes and skin were detected during the experiments. Characterized by susceptibility of the body to infectious and parasitic diseases and high mortality.

Disturbances of protein metabolism in fish, the average amount of hemoglobin in the blood is 65.25±3.08 g/l, the average total protein is 20.25±1.0 g/l, the average total calcium is 1.9±0, 11 mmol/l and inorganic phosphorus decreases to an average of 0.98±0.05 mmol/l.

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