Histopathological studies on the prevalence of gill necrosis in carp carrot Lake distracted Kazeroon

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ARTICLE INFO

Article history:
Received 23 December 2013
Received in revised form 25 February 2014
Accepted 26 February 2014
Available online 25 March 2014

Key words:
Histopathology - necrosis - Lake Disturbed - Carp

ABSTRACT

Introduction: Meat, fish and other livestock to various reasons that are consumed orally is preferred. Given the importance of the health of fish to be used in human society seems essential. Gill necrosis syndrome is one of the most important diseases in the aquaculture industry. The purpose of this study was to investigate the prevalence of histopathological gill necrosis in carp carrot Lake is distracted. Methods: In this study, 100 pieces of carp (carrots) Kazerun distracted Lake fishing and ice compartments Rubber powder was sent to the lab. Fish Pathology Laboratory, Faculty of Veterinary Medicine, the measure biometric characteristics such as weight, length and ... And clinical studies, necropsy was attempted and the observations recorded, the fish gills were isolated and transferred to 10% formalin solution. The gill tissue sections were stained with hematoxylin and eosin, they were studied. Results: In 31 % of cases, one or microscopic signs were observed in 69 % of cases, no symptoms were reported pathology. The most important microscopic signs, including the collapse of the cytoplasm membrane 28, 23 hypertonic cytoplasm, nucleus Hypertrophy 25, 17 pick nose, 11 is replaced by connective tissue.

INTRODUCTION

Rapid population growth and decline in world fish stocks for several reasons, including water pollution, environmental degradation and ... Has led to a more pressing need to maintain the health of the animal species to be felt. Furthermore, the use of different reasons other livestock, meat; fish that are consumed orally is preferred. Given the importance of the health of fish to be used in human society seems to be very important [6].

Carrots belong to the ruler of fish fauna, branches Owners ropes, Category orders Shaklan fish carp family Cyprinidae, the family carp, C. carpio and scientific names of species Cyprinus carpio [5].

This species of fish has an elongated body, head down and pressed flat, greenish -white body color, no Palpus and fin is short [6].

There are five pairs of gill arch. In front, four pairs of primary gill cylindrical blade, to create two rows from the front to the back extends. The two rows at the base by gill walls are connected to each other. The radius on the front edge of the gill arch is located are inclined upward. Usually the last couple pharyngeal gill arch bone is altered role in breathing fish [1]. Chilodonella or two nellyisms pounds, skin and gill parasites of freshwater and brackish disease are caused by the chilodonoloze. chilodonella genus belonging to the family chilodonella, corynochyte dark, cynto frogmino phore class A, and is a branch of ciliates [5].

eyctiofibrous multi phylious external parasites most dangerous fish is freshwater white spot disease, eyctofetirious are created. The disease can cause severe losses in fish. In marine fish, there is a similar parasite that is crypto carrion airtains [4].

The tissue fluids and particles are resulted from the destruction of the parasite feeds. The lining is thin at first but gradually begins to thicken and becomes hyperplasia [4].

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A lierne has hard skin parasites that can cause severe freshwater fish and occasionally sea. Because of their specific shape that is also known as hookworm. A lierne genus belongs to the family lierne. And has more than 40 species lierne species of this genus is most species. Create a boil-like lesions on the scalp, trunk, fins and gills are. In severe infections may be worn across the body of the fish small and large wounds and mucous thick cover on the scales [7].

Cryptobia sex is the most common protozoan flagellate parasite. Several species of this genus cause disease, pollution and economic cryptobiosies freshwater and saltwater fish are the world [4].

Infection by bronchioles Cryptobia red gills, but has abnormal mucus accumulates abundant in gills and skin [3]. gyrodoctylous the most important parasites of parasites in a single host (Monogenous) which is about 0.5 mm in length and the color is white [4]. This parasite is rarely seen with the naked eye and usually the skin and rarely fish gills and eyes will be present. Columnaris disease, a disease of the skin and gills of freshwater fish by Flexi Columnaris is caused by bacteria [2]. These bacteria will multiply at high temperatures. Considering the above mentioned issues and the importance of feeding the fish in the present study was aimed to investigate the prevalence of histopathological gill necrosis in carp Carrot Lake is distracted Kazeroon

Methods:
The study was done on rainbow trout farm, trout Arjan plain located in Fars province.
Rainbow trout was listed weight.
After obtaining samples from salmon farms Arjan, in boxes containing rubber powder and put ice to our laboratory were transferred ichthyology of Veterinary Medicine, Islamic Azad University of opioid. In the laboratory, biometric characteristics such as weight, length, and other symptoms were reviewed and data. Then by the dissection instruments, including forceps, scissors, scalpel, Sean, pin and ... Autopsies were performed. After recording the above information and pictures of the steps listed to laboratory histopathology of Veterinary Medicine was transferred tissue blocks with dimensions cm 1 × cm 1 from fish liver rainbow trout catches taken and formalin (10%) previously prepared was transferred. Then, for each sample, two slides, each slide contains two sections of tissue, tissue was prepared. The histological evaluation was performed by light microscopy.

Results:
The main histopathological findings observed in various stages of necrosis of gill tissue necrosis which can vary depending on factors causing disease. In the present study it was found that this effect was shown in 31 and 69 cases had not seen a sign of the syndrome. The most important microscopic signs, including the collapse of the cytoplasmic membrane 28, 23 hypertonic cytoplasm, nucleus Hypertrophy 25, 17 pick nose, 11 are replaced by connective tissue (Fig. 1) (Fig. 1 to 6).

Diagram1: microscopic observations of examples of carp fish
Fig. 1: necrotic gill filaments Carp Lake distracted with 1000 magnification with hematoxylin eosin

Fig. 2: hypertrophy of the gill filaments Carp Lake distracted with hematoxylin and eosin magnification 4000

Fig. 3: nuclear hypertrophy in Carp Lake City hospital gill distracted magnification hematoxylin and eosin 4000
Discussion and conclusions:

Fish carp gill necrosis factor, bacterial, fungal, viral, parasitic, and terrain factors, toxicology, nutritional factors and complications of neoplastic disease is caused. In this study on 100 carp pond were Fars distracted opioid city, 200 slides were prepared. After investigation it was found that samples most carps the fish pond, with gill necrosis are common.

Previously stated that gill necrosis (Fin Rot) in the southern Baltic Sea fish trusulus metlyous odious tumor necrosis factor-alpha in amoebic gill necrosis is the main role in causing disease [8] .5 micron diameter increases, more hypoxic effects can be observed in fishes. Gill necrosis and bacterial agents who in relation caused by environmental stress are created in three steps:

1 – Gill Influenced by environmental stress such as ammonia, acidity and toxins yellow or dark purple
It comes as no traces of the bacteria were seen at this stage.

2 - During this stage the bacteria attack and cause damage to the gills, gill necrosis, so that a layer on the gill covers, white and gray.

3- Washing by freshwater amoeba positive effect on removing the gills of fish amoebic gill disease (AGP) is. However, re-infection can occur again within a week [9,10].

Sodium- hydrogen exchange system in cell- stone carpet is done. The most sensitive organs of bony fish gills are extremely vulnerable because external position and in direct contact with water and trigger water or suspended in water and are hurt. Reported epidemic in America Pennsylvania led to 90 % mortality of carp fish in the area. Chronic infections, especially parasitic disease may be a large number of inflammatory cells in the gill filaments (lymphocytes - macrophages) are present. Lamella chronic glaucomatous disease may spread like a bacterial disease that affects the kidneys [11,12,13].

It also stated that the edema and hypertrophy of gill epithelial cells in acidification of water and increasing water pollution by aluminum can be seen. Significant associations between blood ammonia and ammonium levels carp gill necrosis, a disease of the blood of carp ever increasing concentration of more than 5/3 is equivalent to milligrams per liter. That the main cause of death in Ireland, viruses Spring carp fish carp (SVC) [14,15].

Conclusions:
In general at the end of pathology we can say that the syndrome named gill necrosis in fact is a complex of different defects of gill and its diversity is on the basis of frame changes and symptoms of illness. Gill syndrome is result of primary and secondary factors which spread among the primary causes of ammonia and PH to stress and physical and chemical parameters and infection can also have devastating effects on the epithelial cells of the gills.

REFERENCES