

Pseudochetosoma salmincola

Acanthobrama marmid

Ligula intestinalis

(2007/1/15 2006/11/15)

(112) (312)

Ligula intestinalis

(43) *Pseudochetosoma salmincola*

(30) ()

L. intestinalis

P. salmincola

.AcP AIP

GOT GPT

The Effect of Parasitism on Some Biochemical Compounds in Liver of *Acanthobrama marmid* Infected with *Pseudochetosoma salmincola* (Digenea) and *Ligula intestinalis* (Tapeworm)

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ABSTRACT

The dissection of (312) of *A. marmid* shows that (112) fishes were infected with digeneans parasite *Pseudochetosoma salmincola*, (43) infected with larva of tapeworm *Liagula intestinalis* (single infection) and (30) with double infection.

The result of statistical analysis show that the single infection with digeneans trematode and larva of cestode have significant effect on biochemical changes in the liver of *A. marmid*. A significant decrease has been found in the total concentrations of protein, glycogen, cholesterol and also in the activity of GPT and GOT, while there was an increase in the activity of ALP and AcP. However, the double infection have greater effect on the biochemical changes than single infection.

()
.(Roberts, 2003)

Neoplasia	Hyperplasia
(Amlacher, 1970 ; Nikolsky, 1963)	
(Sisson, 1968)	

.(Al-Thani and Mohalla,1990;Protugal and Aksen,1983;Benjamin,1978)

■

(1980) Jinde
Salmo gairdneri Lactic dehydrogenase
Cryptobia salmostica
(1990) (Joshi, 1984) *Nemacheilus ruplicoto*
. *Liza abu*
Cyprinus carpio (1990)
Brothocephalus sp.
(Eiras, 2003; Rehulka, 2002)
(1999) (1980) Jinde

(1982) Simha Rasheed .
Lytocestus indicus *Clarius batracus*
 (1993) Khadair
B. luteus (1999) .
Contracaecum sp.

.(Whilse, 1992)

. (Salsi, 2005; Nailzen, 2003; Sindermann, 2002; Rehde, 2002)

Acanthobrama marmid

Ligula intestinalis

Pseudochetosoma salmincola

:

(312)

.(2005)

(2004)

(3-2)

:

(112)

.(Amlacher, 1970)

(43)

P. salmincola

(30)

L. intestinalis

:

(%0.9)

(20-)

: (1990)

.(Lowry et al., 1951) -1

.(Plummer, 1978) Anthrone -2

.(Plummer, 1978) Liberman-Burchard -3

Fishman and Lerner, 1953) -4

. (Kind and King, 1954; -5

.(Reitman and Frankel, 1957)

Spectronic 21 Bauchan Lamb

.(Gallen-Kamp)

:

Duncan test

(P ≤ 0.05) (P ≤ 0.05)

.(Steel and Torie, 1980)

:

(1)

.(P ≤ 0.05)

(%45.70)

.(%16.04 %31.50)

(1979) Joshi (1984,1983 a.b) Radhakrishnan

.(1973) Reiad (1976) Naffar Anwar

.(Radhakrishnan et al., 1984)

.(Shani, 2000 1999 1990)

($P \leq 0.05$)

(%28.80 %17.10)

.(%50.30)

.(1971) Reader

.(Robson and Williams, 1971 ; Sadun et al., 1965)

($P \leq 0.05$)

.(% 61.0 % 48.40)

.(% 79.60)

(Jobling and Johnsen, 1999)

Khadair (2000) Shani

.(1983a.b) Radhakrishnan (1993)

Radhakrishnan

.(1976) Nari Natarajan (1983a.b)

.(Khadair et al., 1993; Joshi, 1984)

: 1

%	± /) (	%	± /) (	%	± /) (	
---	0.27 ± 50A	---	0.06 ± 520A	---	± 5.36A 0.9	
48.40↓	0.25 ± 25.81B	17.10↓	1.6 ± 431B	↓ 16.04	± 4.50B 1.2	
61.00↓	1.3 ± 19.50C	28.80↓	1.9 ± 370C	↓ 31.50	± 3.67C 1.0	
79.60↓	1.9 ± 10.20D	50.30↓	2.7 ± 258D	↓ 45.70	± 2.91D 0.7	

. P ≤ 0.05

.(2003) Roberts (1999)

:

(2)

.(P ≤ 0.05)

(AlP, AcP)

...

AcP
(%120.0 %160.0 %215.5)
.
(% 120.0 % 132.2 % 142.7) AIP

.(1984)

AIP AcP

(1972) Richard
AIP AcP
.(Nailzen, 2003; Sindermann, 2002; Rehde, 2002; Diazani, 1963)

(AcP , AIP) : 2

AcP		AIP		
%	±) AcP (/	%	±) AIP (/	
--	0.06 ± 0.045C	--	0.24 ± 0.124D	
120.0 ↑	0.70 ± 0.054C	120.0 ↑	0.05 ± 0.150C	
160.0 ↑	1.2 ± 0.072B	132.2 ↑	0.12 ± 0.164B	
215.5 ↑	1.5 ± 0.097A	142.7 ↑	0.17 ± 0.177A	

.P ≤ 0.05

GOT		GPT		
%	$\pm$) GOT (/	%	$\pm$) GPT (/	
---	$\pm 0.756A$ 0.27	---	$0.18 \pm 0.209A$	
17.06 ↓	$0.9 \pm 0.627 B$	15.78 ↓	$0.17 \pm 0.176B$	
32.40 ↓	$0.7 \pm 0.511C$	27.27 ↓	$0.19 \pm 0.152C$	
45.89 ↓	$0.3 \pm 0.409D$	42.58 ↓	$0.19 \pm 0.120D$	

. $P \leq 0.05$

(3)

.($P \leq 0.05$) GOT GPT
GPT
(% 15.78 % 27.27 % 42.58)
.(% 17.06 % 32.40 %45.89) GOT
GOT GPT

.(1978) Benjamin (1992) Moore Hacker
GOT GPT

.(2005) Salsi .(1994)
(2002) Rehulka (2004) Cross

(3 2)

ALP

AcP

.(2002) Sindermann (2005) Salsi

GPT

GOT

.1990

1

.217 – 209 2

.1984

.1990

.1990

73

.1994

.89 – 18 2 71

.*Gambusia affinis*

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