RESULTS

The results of this work are shown in the following tables and figures :

Figure (1):

Shows sex distribution of studied cases with hepatomegaly. The total number of studied cases was 50 (100%); 33 males (66%) and 17 females (34%) .

Table (1):

Demonstrates age and sex distribution of studied cases with hepatomegaly .The total number of cases in age group under 4 years was 14 out of 50 (28%) ; 7 males out of 33(21. 2%) and 7 females out of 17(41.2%). The total number of cases in age group 4-8 was 20 out of 50 (40%) ; 15 males out of 33 (45.5%)and 5 females out of 17 (29.4%) . The total number of cases in age group over 8 years was 16 out of 50 (32%) ; 11 males out of (33.3%) and 5 females out of 17 (29.4%) .

(Chi - square = 2.373 and p-value > 0.05) .

Table (2):

Illustrates the mean, standard deviation and range of age of studied cases with hepatomegaly according to sex. The mean age of males was 5.9 years with a standard deviation ± 2.6 and a range 2-10 years whereas the mean age of females was 5.5 years with a standard deviation ± 3.5 and a range 2-13 years.

(t = 0.431 while p-value > 0.05)

Table (3):

Shows sex distribution of studied cases with hepatomegaly according to infection with Fasciola. The total number of infected cases with Fasciola was 3 out of 50(6%) ; 3 males out of 33 (9%) with no demonstrated infection among females (zero%). The total number of non - infected cases was 47 out of 50 (94%) ;30 males out of 33 (90.9%) and 17 females out of 17(100%).

Figure (2) : Illustrates infected cases with Fasciola among studied cases with hepatomegaly .

Figure (3) : shows sex distribution of infected and non-infected cases.

Table (4):

Demonstrates age distribution of studied cases according to infection with Fasciola. The total number of cases in age group under 4 years was 14 out of 50 (28%) ; 14 non-infected cases out of 47 (29.8%) with no demonstrated infection (Zero %). The total number of cases in age group 4-8 years was 20 out of 50 (40%) ; one infected case out of 3 (33.3%) and 19 non-infected cases out of 47 (40.4%) . The total number of cases in age group over 8 years was 16 out of 50 (32%) ; 2 infected cases out of 3 (66.7%) and 14 non-infected cases out of 47 (29.8%).

Figure(4): Shows age distribution of cases according to infection with Fasciola.

Table (5):

Demonstrates mean and standard deviation of age of studied cases with hepatomegaly according to infection with Fasciola.The mean age of infected cases with Fasciola was 7.3 years with a standard deviation ± 2.1 while , the mean age of non-infected cases was 5.7 years with a standard deviation ± 2.9

($t = 0.946$ while p-value > 0.05)

Table (6) :

Presents stool examination of studied cases with hepatomegaly . 19 cases out of 50 (38%) were negative for parasites . Fasciola eggs were demonstrated in 3 cases out of 50 (6%) . 28 cases out of 50 (56%) were negative for Fasciola but positive for other parasites : 24 cases (48%) had a single parasite and 4 cases (8%) had double infection with two parasites .The cases infected with a single parasite were : 10 cases (20%) Entamaeba histolytica , 6 cases (12%) Giardia lamblia , 4 Cases (8%) Hymenolepis nana and 4 cases (8%) Ascaris .The cases infected with two parasites were :

2 cases (4%) Hymenolepis nana and Giardia lamblia, one case (2%) Entamaeba histolytica and Giardia lamblia and one case (2%) Entamaeba histolytica and Ascaris .

Figure (5) : Shows a light photomicrograph of Fasciola eggs detected in the stools of infected cases.

Figure (6) : Shows a higher magnification of one Fasciola egg in the previous field .

Table (7) :

Shows validity of 3 successive stool examinations in detecting Fasciola eggs in comparison to results of I.H.A test. The 3 successive stool examinations detected one infected case out of 50 (2%) and 49 cases out of 50 (98%) were non - infected . This method diagnosed only one infected case out of 3 (33.3%) detected by I.H.A test and failed to diagnose the other 2 positive cases (66.7%) which were considered negative .

(The sensitivity of the test i.e ability of stool examination in detection of truely affected case with Fasciola = 33.3% and its specificity i.e abilily of stool examination in exclusion of non - affected subject = 100%) .

Table (8) :

Demonstrates validity of floatation (zinc sulphate) technique in detecting Fasciola eggs in comparison to results of I.H.A. test . The floatation (zinc sulphate) floatation technique failed to detect any infected cases (zero %) and all infected cases (100%) detected by I.H.A. test were considered non-infected.

(The sensitivity of this test = zero % and its specificity = 100%) .

Table (9) :

Shows validity of formol - ether and merthiolate iodine formaldehyde concentration (MIFC) in detecting Fasciola eggs in comparison to results of I.H.A test . Both techniques diagnosed 3 infected cases out of 50 (6%) and 47

cases out of 50 (94%) were non - infected and they were as sensitive and specific as I.H.A. test

Table (10) :

Illustrates mean , standard deviation and range of haemoglobin among studied cases with hepatomegaly according to infection with Fasciola . The mean value of haemoglobin among infected cases was 5.8 gm/dl with a standard deviation ± 1.3 and a range 4.5 - 7 gm/dl whereas its mean value among non - infected cases was 7 mg/dl with a standard deviation ± 2.2 and a range 3-10 gm /dl .

(t = 0.937 and P - value > 0.05)

Table (11) :

Shows mean , standard deviation and range of eosinophils % among studied cases with hepatomegaly according to infection with Fasciola. The mean value of eosinophils % among infected cases was 7.7% with a standard deviation ± 1.5 and a range 6 - 9% whereas its mean value among non-infected cases was 2.3% with a standard deviation ± 1.5 and a range 1-8 % .

(T = 6.069 and P -value < 0.01 i.e highly significant)

Table (12) :

Demontrates clinical manifestations among studied cases with hepatomegaly in infected and non - infected cases. The total number of cases presenting with fever was 39 out of 50 (78%) ; 3 infected cases out of 3 (100%) and 36 non infected cases out of 47 (76.6 %). The total number of cases showing pallor was 19 out of 50 (38%); 3 infected cases out of 3(100%) and 16 non- infected cases out of 47 (34%) The total number of cases having vomiting was 9 out of 50 (18%) ; one-infected case (33.3%) and 8 non - infected cases out of 47 (17%) . The total number of cases with jaundice was 11 out of 50 (22%) ; one infected case out of 3 (33.3%) and10 non-infected cases out of 47 (21.3%) . The total number of cases having tender liver was

7 out of 50 (14%) ; 3 infected cases out of 3 (100%) and 4 non- infected cases out of 47 (8.5%) .

Figure (7) : Illustrates the major clinical manifestations of fascioliasis (fever pallor and tender liver) in infected and non- infected cases .

Figure (1)

Sex distribution of studied cases with hepatomegaly.

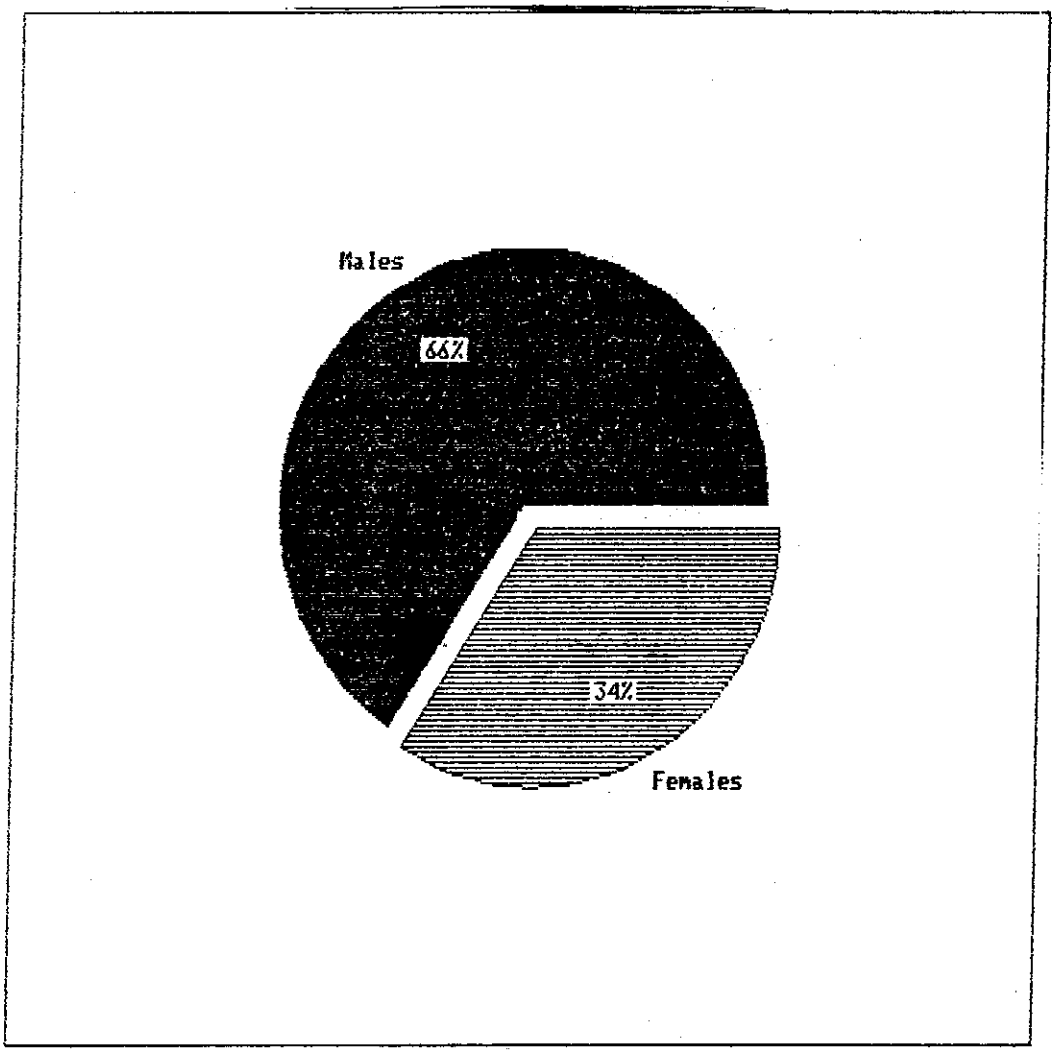

Table (1)

Age and sex distribution of studied cases with hepatomgaly.

Sex / Age (y)	Males		Females		Total	
	No	%	No	%	No	%
< 4	7	21.2	7	41.2	14	28.0
4 - 8	15	45.5	5	29.4	20	40.0
8 +	11	33.3	5	29.4	16	32.0
Total	33	100.0	17	100.0	50	100.0

$X^2 = 2.373$

$P > 0.05$

Table (2)

Mean ($\overline{X}$), standard deviation (±SD) and range of age among studied cases with hepatomegaly according to sex

Age (y) / Sex	$\overline{X}$	± S.D.	Total	
			Minimum	Maximum
Males	5.9	± 2.6	2.0	10.0
Females	5.5	±3.5	2.0	13.0

$t = 0.431$

$P > 0.05$

Table (3)

Sex distribution of studied cases with hepatomegaly according to infection with Fasciola

Fasciola / Sex	Infected		Non-Infected		Total	
	No	%	No	%	No	%
Males	3	9.0	30	90.9	33	100.0
Females	0	0.0	17	100.0	17	100.0
Total	3	6.0	47	94.0	50	100.0

Table (4)

Age distribution of studied cases with hepatomegaly according to infection with Fasciola.

Fasciola / Age (y)	Infected		Non-Infected		Total	
	No	%	No	%	No	%
< 4	0	0.0	14	29.8	14	28.0
4 - 8	1	33.3	19	40.4	20	40.0
8 +	2	66.7	14	29.8	16	32.0
Total	3	100.0	47	100.0	50	100.0

Figure (2)

Cases infected with Fasciola among studied cases with hepatomegaly .

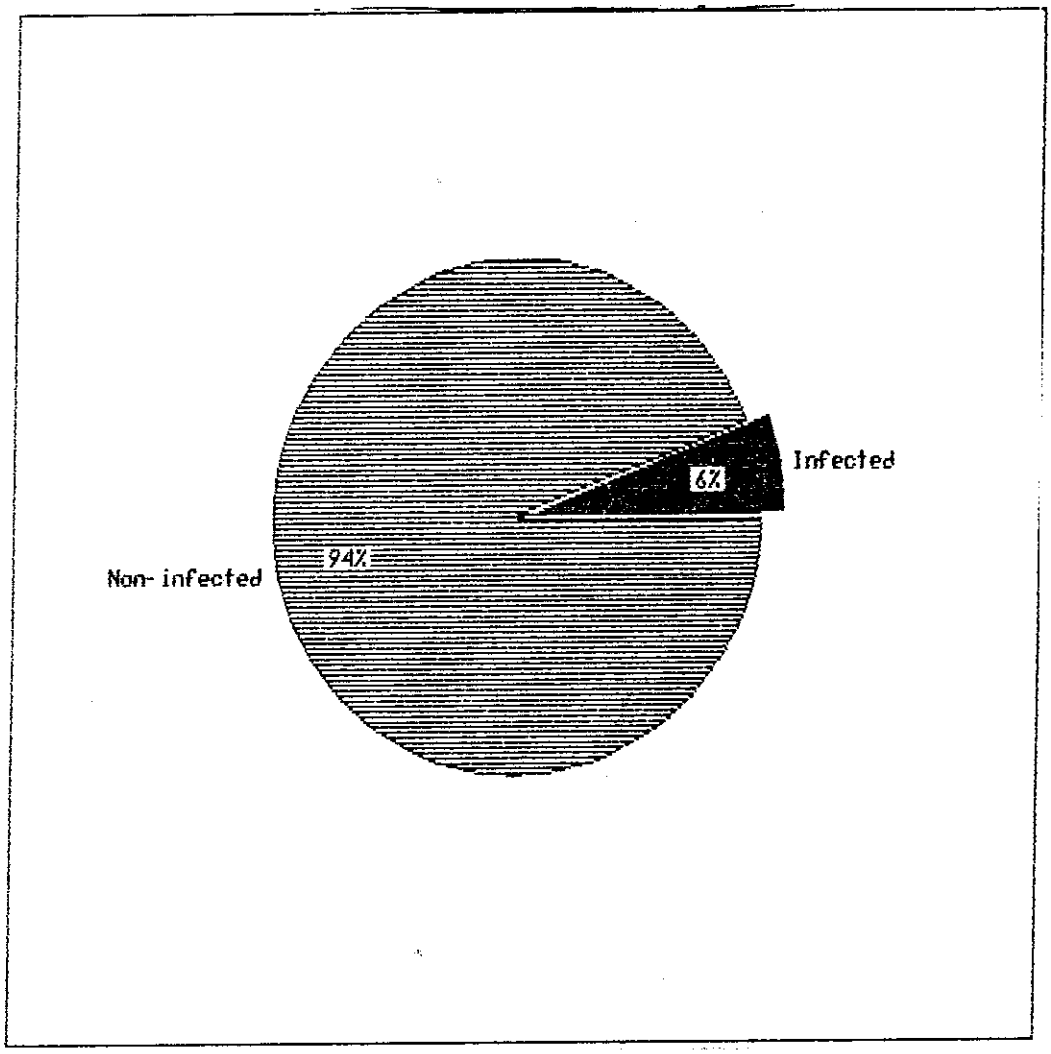

Figure (3)

Sex distribution of cases according to infection with Fasciola.

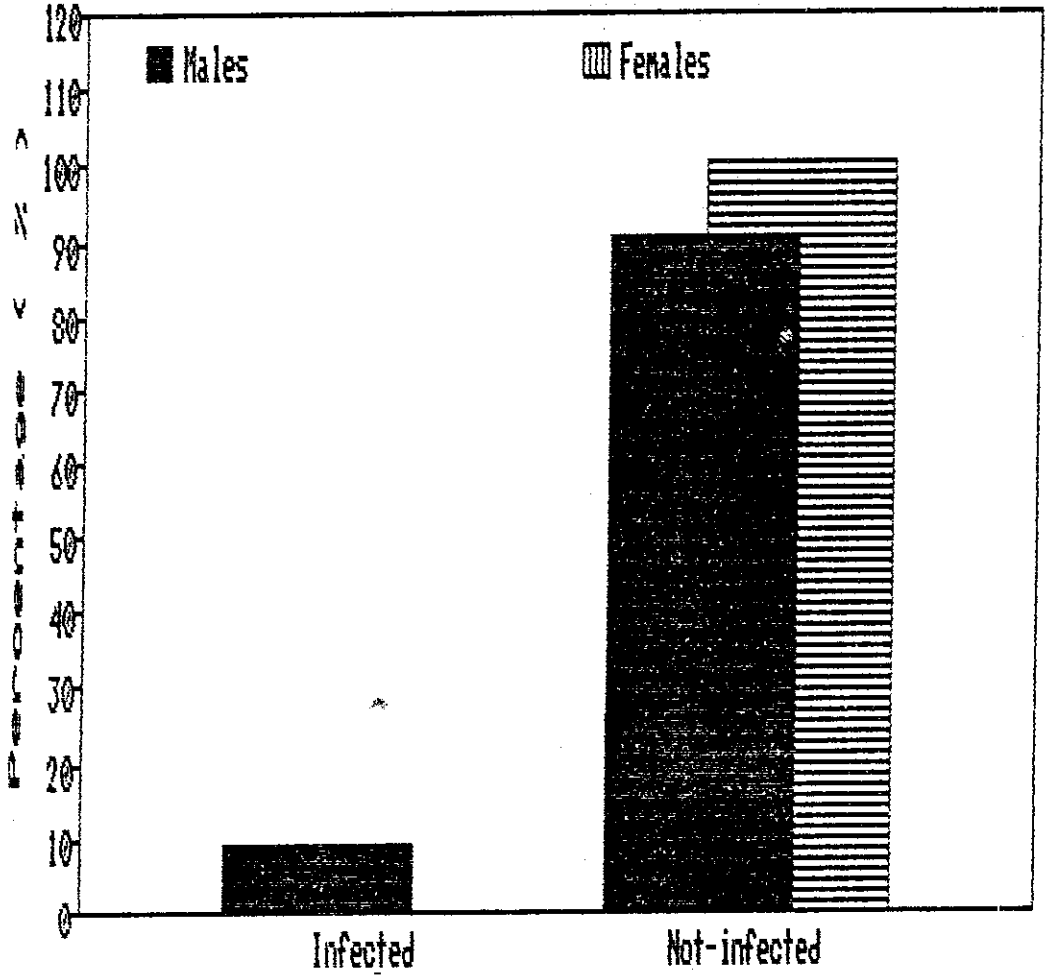

Figure (4)

Age distribution of cases according to infection with Fasciola

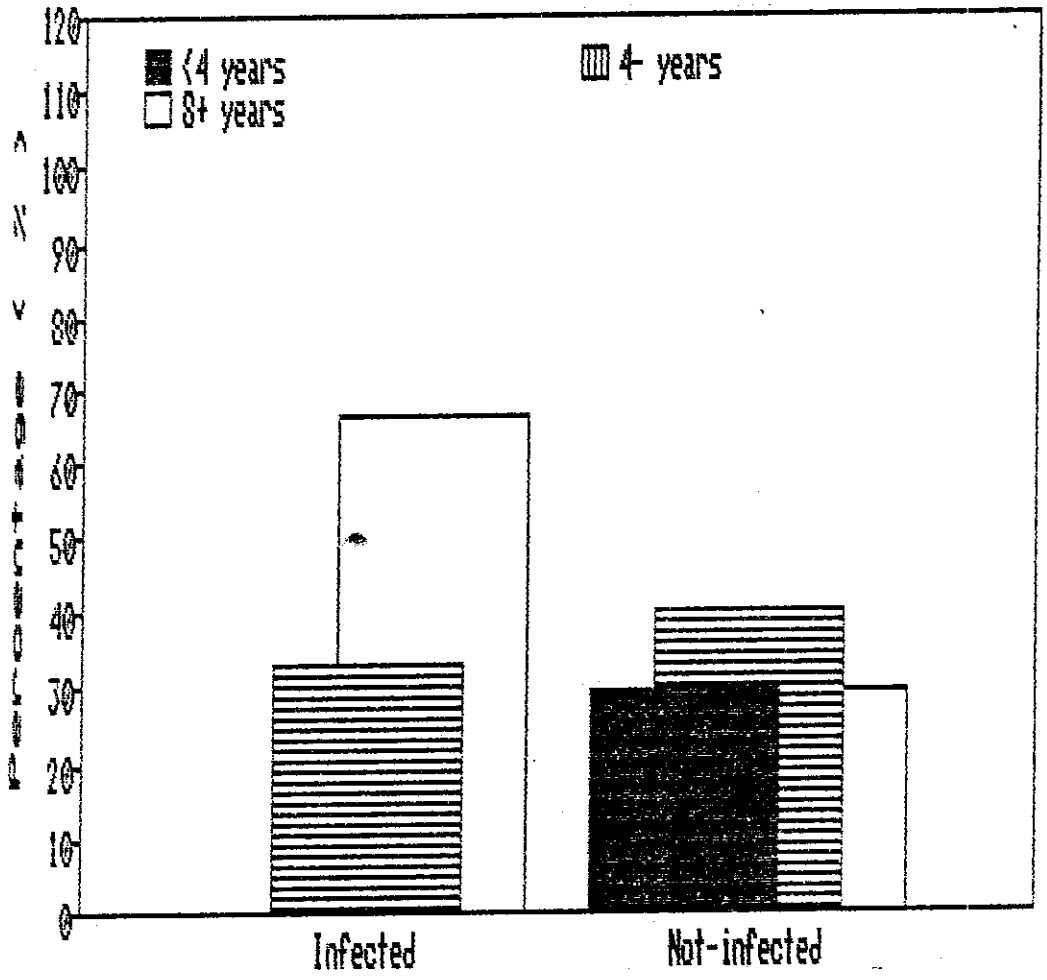

Table (5)

Mean ($\overline{X}$) and standard deviation (± S.D) of age of studied cases with hepatomegaly according to infection with Fasciola.

Fasciola / Age (y)	Infected	Non-Infected
$\overline{X}$	7.3	5.7
± S.D.	± 2.1	± 2.9

$t = 0.946$

$p > 0.05$

Table (6)

Results of stool examination of studied cases with hepatomegaly

Distribution / Parasite	Number	%
Negative	19	38
Fasciola	3	6
Other parasites:	28	56
single infection:	24	48
E.histolytica	10	20
G. lamblia	6	12
H. nana	4	8
Ascaris	4	8
Double infection :	4	8
H.nana + G. lamblia	2	4
E. histolytica +G. lamblia	1	2
E. histolytica + Ascaris	1	2

Table (7) :

Validity of 3 -8 successive stool examinations in dectecting Fasciola eggs in comparison to I.H.A test .

I.H.A / *3 successive stool exam*	*+Ve Fasciola*		*-Ve Fasciola*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
+Ve Fasciola	1	33.3	0	0.0	1	2.0
-Ve Fasciola	2	66.7	47	100.0	49	98.0
Total	3	100.0	47	100.0	50	100.0

- Sensitivity = 33.3%
- Specificity = 100.0 %
- Positive predictive value = 100.0 %
- Negative Predictive value = 95.5 %

Table (8) :

Validity of floatation (zinc sulphate) technique in detecting Fasciola eggs in comparison to I.H.A test .

I.H.A / *Floatation technique*	*+Ve Fasciola*		*-Ve Fasciola*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
+Ve Fasciola	0	0.0	0	0.0	0	0.0
-Ve Fasciola	3	100.0	47	100.0	50	100.0
Total	3	100.0	47	100.0	50	100.0

- Sensitivity = 0.0 %
- Specificity = 100.0 %
- Positive predictive value = 0.0 %
- Negative Predictive value =100.0 %

Table (9)

Validity of formol - ether (F-E) and merthiolate iodine formaldehyde concentration (MIFC) in dectecting Fasciola eggs in comparison to results of I.H.A test .

I.H.A / *F-E.& MIFC*	*+Ve Fasciola*		*-Ve Fasciola*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
+Ve Fasciola	3	100.0	0	0.0	3	60
-Ve Fasciola	0	0.0	47	100.0	47	94.0
Total	3	100.0	47	100.0	50	100.0

- Sensitivity = 100.0 %
- Specificity = 100.0 %
- Positive predictive value = 100.0 %
- Negative Predictive value =100.0 %

Table (10)

Mean ($\bar{X}$) standard deviation (± S.D) of haemoglobin (HB) among studied cases with hepatomegaly according to infection with Fasciola .

Fasciola / *HB*	*Infected cases*	*Non - infected cases*
$\bar{X}$ *Value*	5.8	7.0
± *S.D.*	±1.3	±2.2
Range :		
- Minimum	4.5	3.0
- Maximum	7.0	10.0

t = 0.937

P-Value > 0.05

Table (11)

Mean($\bar{X}$),standard deviation (± S.D) and range of eosinophils % among studied cases with hepatomegaly according to infection with Fasciola.

Fasciola / *Eosinophils %*	*Infected cases*	*Non - infected cases*
$\bar{X}$ *Value*	7.7	2.3
± *S.D.*	±1.5	±1.5
Range :		
- Minimum	6.0	1.0
- Maximum	9.0	8.0

T = 6.069

P > 0.01

Table (12)

Clinical manifestations among studied cases with hepatomegaly according to infection with Fasciola .

Fasciola / *Clinical manifestations*	*Infected cases (No = 3)*		*Non-infected cases (No = 47)*		*Total (No=50)*	
	No	*%*	*No*	*%*	*No*	*%*
Fever	3	100.0	36	76.6	39	78.0
Pallor	3	100.0	16	34.0	19	38.0
Vomiting	1	33.3	8	17.0	9	18.0
Jaundice	1	33.3	10	21.3	11	22.0
Tender liver	3	100.0	4	8.5	7	14.0

NB) The percentage was calculated from the total number of the group .

Figure (7)

Major clinical manifestations among studied cases according to infection with Fasciola .