RESULTS

The present study included 30 patients with hepatic lesions, 20 males and 10 females. Findings in those patients will be presented in the following tables

Table (1): Showing mean age ±SD and sex distribution in 30 patients with hepatic lesions.

	Males	Females	Total	t	p
Mean age ±SD	50.9 ± 15.5	47.9 ±9.5	49.9 ±13.7	0.57	0.56
Range	20 – 70	25 – 56	20 – 70		

From this table, the mean age for the 30 patients was 49.9 ± 13.7 with a range from 20 to 70 years old. For 20 males, the mean age was 50.9 ±15.5 and range from 20 to 70 years old. For 10 females, the mean age was 47.9 ±9.5 and range from 25 to 56 years old.

Distribution of the 30 patients as regard age groups was as shown in the following table.

Table 2: Sex distribution according to age group in 30 patients with hepatic lesions.

Sex / Age group	Males		Females		Total	
	No.	%	No.	%	No.	%
20-30	3	15	1	10	4	13.3
> 30 –40	2	10	-	-	2	6.7
> 40 – 50	3	15	4	40	7	23.3
> 50 – 60	6	30	5	50	11	36.7
> 60 – 70	6	30	-	-	6	20
Total	20	100	10	100	30	100

From this table, it was found that, 11 cases (36.7%) were in the age group > 50 to 60 years. Seven cases (23.3%) were in the age group > 40 to 50 years. Six cases (20%) were in the age group > 60 to 70 years. Four cases (13.3%) were in the age group 20 to 30 years and only two patients (6.7%) were in the age group > 30 to 40 years.

Clinical presentations in 30 cases with hepatic lesions:

Table 3: Shows clinical presentations in 30 patients with hepatic lesions.

Clinical presentations	Patients	
	No.	%
Right hypochondrial pain	15	50
Right hypochondrial mass	1	3.3
Jaundice	3	10
Cachexia	8	26.7
G.I.T symptoms	3	10
Total	30	100

The most common presentations was right hypochondrial pain were it was the clinical presentation in 15 cases (50%). Cachexia was found in 8 cases (26.7%). Jaundice was found in 3 cases (10%). Associated gastrointestinal symptoms were found in 3 cases (10%). Right hypochondrial mass the clinical presentation in one case (3.3%).

The number of hepatic lesions found in 30 cases

Table 4: Shows the number and percentage of hepatic lesions in 30 cases.

Hepatic lesions		Patients		No. of lesions	
		No.	%	No.	%
Single		18	60	18	30
Multiple	2	3	10	6	10
	3	5	17	15	25
	4	1	3	4	7
	≥ 5	3	10	17	28
Total		30	100	30	100

The total number of hepatic lesions found in 30 patients was 60 lesions, 18 single lesions (30%) were in 18 cases (60%). In three cases (10%), two lesions were found in each case (10%). In 5 cases (17%) 3 lesions were found in each case (15 lesions, 25%). In one patient (3%) 4 lesions were found (7%). In another three cases (10%) 5 lesions were found in one cases and 6 lesions were found in each of two cases (17 lesions, 28%).

The site of hepatic lesion in relation to liver segments:

Table 5: Shows the number of segments affected with hepatic lesions.

Liver segments		No.	%
Left lateral	Segment 2	3	5.3
	Segment 3	5	8.8
Left medial	Segment 4	4	7
Right anterior	Segment 5	10	17.5
	Segment 8	7	12.3
Right posterior	Segment 6	17	29.8
	Segment 7	11	19.3
Total		57	100

From this table, the 60 hepatic lesions in the 30 cases, 29.8% of the lesions were found in segment 6.

19.3% of the lesions were found in segment 7.

17.5% of the lesions were found in segment 5.

12.3% of the lesions were found in segment 8.

8.8 of the lesions were found in segment 3.

5.3%of the lesions were found in segment 2.

Segment 6 was the most common site of affection with hepatic lesions.

The mean ±SD of the largest hepatic lesion was 4.3 ±1.9 cm with range from 1 to 9 cm in length and 3.8 ± 1.6 with a range of 1 to 6 cm in width.

Pathological diagnosis :

The results of fine needle aspiration biopsy were as in the following table.

Table 7:The results of fine needle aspiration biopsy in the 30 patients with hepatic lesions.

Pathology	No. of cases	%
Hepatocellular carcinoma	12	40
Metastasis	3	10
Lymphoma	1	3.33
Cholangiocarcinoma	4	13.4
Hemangioma	6	20
Focal nodular hyperplasia	1	3.3
Pyogenic liver abscess	1	3.3
Amoebic liver abscess	1	3.3
Simple hepatic cyst	1	3.3
Total	30	100

Hepatocellular carcinoma was found in 12 patients (40%) which was the most common lesion found. Other pathologies include metastatic lesions in 3 cases (10%), lymphoma in 1 cases (3.33%), cholangiocarcinoma in 4 cases (13.4%), and hemangioma in 6 cases (20%). Focal nodular hyperplasia, pyogenic liver abscess, amoebic liver abscess, and simple hepatic cyst were found in one case (3.3) for each.

Enhancement pattern of different pathologies :

Table 8: Enhancement pattern of different pathologies.

Pathology	No. of cases	Code			No.	%
		Arterial	Portal	Delayed		
Hepatocellular carcinoma	12	Hetero Hypo Iso	Hypo Hypo Hypo	Hypo Hypo Hypo	9 2 1	75% 16.6% 8.3%
Metastasis	3	Hyper Hypo	Hypo Hypo	Iso Hypo	2 1	66.6% 33.3%
Lymphoma	1	Hypo	Hypo	Hypo	1	100%
Cholangiocarcinoma	4	Hetero	Hetero	Hetero	4	100%
Hemangioma	6	Hetero	Hetero	Iso + central hypo	6	100%
Focal nodular hyperplasia	1	Hyper	Iso	Iso	1	100%
Pyogenic liver abscess	1	Marginal	Marginal	Marginal	1	100%
Amoebic liver abscess	1	Marginal + rim of oedema	Marginal + rim of oedema	Marginal + rim of oedema	1	100%
Simple hepatic cyst	1	Hypo	Hypo	Hypo	1	100%
Total	30				30	100

Hepatocellular carcinoma revealed three different enhancement patterns, the most common is heterogenously enhancing in arterial phase and hypodense in both portal and delayed phase (75%), 1 case of lymphoma appeared hypodense in all phases (100%), 4 cases of cholangioccarcinoma appeared heterogenously enhancing in all phase (100%), 6 cases with hemangioma appeared heterogenous in all phases (100%). one case of focal nodular hyperplasia appeared hypertense in arterial phase and isodense in both portal and delayed phases (100%), one case of pyogenic liver abscess appeared marginally enhancing in all phases (100%), one case of amoebic liver abscess marginally enhancing with rim of oedema in all phases (100%), and a case of simple hepatic cyst appeared hypodense in all phases (100%).

Hepatocellular carcinoma (HCC):

Hepatocellular carcinoma was diagnosed in 12 patients with mean age 53.2 ± 14.6 and range from 20 to 70 years old.

Those cases included 10 males with mean age 54.7 ±15.7 and range from 20 to 70 years old and 2 females aged 43 and 48 years old.

Table 9: Age and sex distribution in 12 cases with hepatocellular carcinoma.

Sex / Age group	Males		Females		Total	
	No.	%	No.	%	No.	%
20-30	1	10	-		1	8.3
> 30 –40	1	10	-		1	8.3
> 40 – 50	1	10	2	100	3	25
> 50 – 60	3	30	-		3	25
> 60 – 70	4	40	-		4	33.4
Total	10	100	2	100	12	

From this table, HCC was found commonly in the age group > 60 to 70 years (4 cases, 33.4%). In the age group > 50 to 60 years (3 cases, 25%). In the age group > 40 to 50 years (3 cases, 25%). In the age groups > 30 to 40 years and 20 to 30 one case (8.3%) in each group was found.

The number of HCC lesions:

The number of HCC lesions detected in 12 cases was 25 lesions single and multiple.

Table 10: Number of HCC lesions in 12 cases.

Hepatocellular carcinoma lesions		Patients		Lesions	
		No.	%	No.	%
Single		6	50	6	24
Multiple	2	1	8.3	2	8
	3	4	33.4	12	48
	5	1	8.3	5	20
Total		12	100	25	100

In 12 cases with HCC, 25 lesions were detected. Six single lesions (24%) were found in 6 patients. In 4 cases 3 lesions were found in each one (48%). In one patient 5 lesions were found (20%) and in another one patient two lesions were found (8%).

The mean size of HCC lesions found was 4.3 $\pm$1.3 cm in length with range from 2 to 6 cm and 3.7 $\pm$1 cm in width with range from 2 to 5 cm.

Liver segments affected with HCC in the 12 cases

Table 11: Affected segments with HCC.

Liver segments		No.	%
Left lateral	Segment 2	1	7
	Segment 3	1	7
Left medial	Segment 4	-	-
Right anterior	Segment 5	2	13
	Segment 8	1	7
Right posterior	Segment 6	6	40
	Segment 7	4	26
Total		15	100

In the 12 cases with HCC, segment 6 was the commonest to be affected (40%). Segment 7 (26%). Segment 5 (13%). While it was only (7%) for 2, 3, and 8 liver segments. None was found in segment 4.

Enhancement pattern in HCC:

Table 12: Enhancement patterns in HCC as shown in the following table.

	Arterial phase				Portal				Delayed			
Density	Hypodense	Isodense	Hyperdense	Heterogeous.	Hypodense	Isodense	Hyperdense	Heterog/hyper	Hypodense	Isodense	Hyperdense	Heterog.
No	2	1	-	9	12	-	-	-	12			
%	16.66	8.3	-	75	100			-	100			

Table 14: Enhancement pattern in 3 cases with metastatic lesions

	Arterial phase				Portal				Delayed			
Density	Hypodense	Isodense	Hyperdense	Heterogonous.	Hypodense	Isodense	Hyperdense	Heterogeneous	Hypodense	Isodense	Hyperdense	Heterogonous
No	1		2	-	3				1	2		
%	33.3		66.7	-	100				33.3	66.7		

Table 15: Enhancement pattern in 1 case with lymphoma:

	Arterial phase				Portal				Delayed			
Density	Hypodense	Isodense	Hyperdense	Heterogonous.	Hypodense	Isodense	Hyperdense	Heterog/hyper	Hypodense	Isodense	Hyperdense	Heterogonous
No	1				1				1			
%	100				100				100			

Table 16: Enhancement pattern in 4 cases with cholangiocarcinoma:

	Arterial phase				Portal				Delayed			
Density	Hypodense	Isodense	Hyperdense	Heterogonous.	Hypodense	Isodense	Hyperdense	Heterogonous	Hypodense	Isodense	Hyperdense	Heterogeneous
No				4				4				4
%				100				100				100

Table 17: Enhancement pattern in 4 cases with hemangioma

	Arterial phase				Portal				Delayed			
Density	Hypodense	Isodense	Hyperdense	Heterogonous	Hypodense	Isodense	Hyperdense	Heterogeneous	Hypodense	Isodense + central hypodense	Hyperdense	Heterogonous
No				4				4		4		
%				100				100		100		