

# Hepatocellular Carcinoma in our set-up: An overview

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This is a study of twenty-six patients who presented to Mayo Hospital between 1997 to 1999 and were diagnosed as cases of hepatocellular carcinoma. These patients were divided basically in two groups. One in which tumour had already metastasised on presentation (23.07%) and were inoperable. While rest of them under went surgery and it was found that only 30.76% were suitable for surgery. In this way 69.23% patients with hepatocellular carcinoma were irresectable. Patients who had resectable tumours 70% died within thirty days.

**Key words:** Hepatocellular Carcinoma, Surgical resection, and High mortality

Hepatocellular carcinoma accounts for about 90% of primary malignant tumours of the liver<sup>1</sup>. Although it mainly affects the males yet is not uncommon in the females. Its incidence, directly related to chronic liver disease, whether alcoholic or viral, is on the rise throughout the world.<sup>2</sup> Presentation of this disease is late in majority of the cases. Only less than 30% of the patients belong to the category where treatment in the form of surgical resection can be offered<sup>3</sup>. Majority of the patients dies within six months of diagnosis. Plenty of cases of hepatocellular carcinoma are documented in Pakistan. The incidence has increased with the surge of chronic viral hepatitis (HBC & HCV) infections<sup>4</sup>. The scarcity of literature indicates that a little work has been done in this field so far. Surgeons are working in their own interest in hepatic surgery.

## Patients and Methods:

This study was carried out at Mayo Hospital over a period of two years from 1997-1999. The patients for the study were aggregated at random from surgical units of the hospital. After taking detailed clinical history and doing examination, apart from routine investigations, abdominal ultrasonography and contrast CT scan was done to support diagnosis. Serologies for HBV and HCV were performed along with the coagulation profile. Final diagnosis was accomplished by FNAC or open biopsy. Surgical exploration was undertaken in about two thirds of cases. Operative findings were noted. Surgical resection, where possible, was performed. Unresectable cases were those with extensive local involvement or those having overt distant metastasis. Diagnosis was confirmed by histopathology. In the resectable group right segmental resection/right formal lobectomy was performed. In the unresectable group, just biopsies were taken. The postoperative complications in both groups were recorded. The postoperative hospital stay and in hospital mortality in both groups was compared.

## Results:

Twenty-six patients with Hepatocellular carcinoma (HCC) were included in the study. Sex distribution of the patients with hepatic neoplasm is shown in the Table 1. Age of patients ranged from 20-65 years, with a mean age of 47.2. Majority of the cases belonged to fourth and fifth decade (Table 2).

Table 1. Sex Distribution

	n=	%age
Males	17	65.38
Females	09	34.61
Total	26	

Table 2. Age Distribution

Age (yrs)	n=	%age
20-29	07	10.61
30-39	09	13.64
40-49	13	19.70
50-59	18	27.27
60 +	19	28.79

Risk factors associated with hepatocellular carcinoma (table 3) showed that most patients were cirrhotic 69.23%. The serology showed that 30.76% were HBV positive and 15.38% were HCV positive and 26.92 were positive for both HBV and HCV. Smoking (38.45%) and alcohol (3.84%) were also shown to be considerable risk factors.

The patients with HCC presented mostly with a combination of symptoms. Majority of them had mass in upper abdomen (right hypochondrium or epigastrium) 74.24% and second common presentation was pain in right hypochondrium (45.45%). Other presentations are given in Table 4.

Table 3. Etiological Risk Factors in HCC

Risk factors	n=	%age
Cirrhosis	18	69.23
HBV	08	30.76
HCV	04	15.38
HBV & HCV	07	26.92
Smoking	10	38.46
Alcohol	01	3.84

Table 4. Clinical presentations of Hepatic Neoplasm

Clinical presentations	n=	%age
• Mass in upper abdomen	49	74.24
• Pain right hypochondrium	30	45.45
• Jaundice	13	19.69
• Weight loss	11	16.66
• Ascities	07	10.60

The patients were divided in two groups on basis of respectability of tumour. Six (23.07%) had secondaries in lung. FNAC of the suspicious lesion was done for

confirmation of diagnosis. Of remaining 20 (76.92%) cases 12 (46.15%) were found irresectable on laparotomy and only biopsies were taken. In these patients there was evidence of extra hepatic involvement also (Table 6). Thus a total of 18 (69.23%) of patients with hepatocellular carcinoma were found to be irresectable. In 8 (30.76%) patients segmental resection was performed. In majority of patients tumour was present in right lobe of liver. All resectable cases had tumours in their right lobe. (Table 7,8)

Table 6: Resectable/Unresectable groups

		n=	%age
<b>Resectable</b>		08	30.76
Secondaries in lung		06	46.15
<b>Irresectable</b>		12	23.07
Extra hepatic involvement	Lymph nodes	6	23.07
	Peritoneum	6	23.07
	Ascities	5	19.23
	Colon	4	15.38
	Gallbladder	2	7.69

Table 7. Tumour Sites (HCC)

Liver lobe	n=
Right lobe	15
Left lobe	05
Both lobes	06

Table 8: Procedures performed for HCC

Procedure	n=	%age
• Laparotomy and biopsy	12	46.15
• FNAC	6	23.07
• Segmental resection	8	26.92
• Right Lobectomy	1	03.84

Major postoperative complications were observed in 10 (38.46%) of the patients. Of these most were in resectable group. Two (7.69%) of the patients remained free of complications except for biliary leakage. This leakage remained for about two weeks and later ceased without any intervention. Rest of the six (23.07%) patients had fatal complications. Two (7.69%) patients developed severe postoperative sepsis. Three (11.53%) suffered from hepatic failure and one (3.84%) patient had massive gastrointestinal haemorrhage. In the irresectable one (3.84%) patient developed wound infection while another (3.84%) sustained persistent leakage of ascitic fluid.

The thirty-day hospital mortality in case of resectable group was 75% (n=6) and 5.55% (n=1) in case of irresectable group.

## Discussion

Hepatocellular carcinoma is mainly a disease of the middle age and elderly with an occurrence of about 1 million new cases annually. An overwhelming majority of the patients die within a few weeks, at best months and the death toll from this disease is considerable<sup>1</sup>

generally the incidence of hepatocellular carcinomas increases with age in all populations. In Europe 50% of the cases are over the age of 65 years<sup>5</sup>. In our study, the mean age of the patients was 47.2. The HCC happens to present more commonly in males with a male to female ratio of 2-4:1<sup>6</sup>. In our study the ration is almost the same. This increase in prevalence in males may be due to increase tendency of alcohol, smoking and exposure to external environment in our society. The incidence of HCC worldwide parallels the incidence of HBV and HCV infection. The role of viral hepatitis in the development of HCC is beyond doubt. Studies by Edomato et al indicate the presence of HCV-RNA in 77% of cases<sup>7</sup>. Similarly HBV-DNA positively was found in 80% of cases. In our study, about 73% of cases were positive for HBV or HCV or both. Cirrhosis has also been shown to be a major cause. Over 75% of hepatomas occur in cirrhotic livers<sup>4</sup>. In our study about 70% of cases had cirrhosis.

Surgical resection is the only treatment for HCC that consistently offers hope for cure. However, less than 30% of patients are suitable for resection<sup>3</sup>. The reasons mainly being advanced stage of the disease or poor liver functions. About 70% of cases in our study belonged to the category where definitive surgical help could not be offered. These cases were brought to the hospital at a very late stage of the disease. Although after initial work up and preparation twenty cases were opened but in twelve of them definitive procedure had to be abandoned because of extra hepatic spread. 23% of the cases were found to be inoperable due to the already metastasised disease. Had these cases presented earlier, they might have been operable.

Various studies have been carried out in terms of mortality and survival. Tukenaha<sup>8</sup> in his study conducted in 1994 showed a thirty-day mortality of 5%, one-year mortality of 77% and three year mortality of 58%. The results of surgical resection in terms of 30 days in hospital mortality and the long-term survival were very poor in our study. This could be due to the fact that the number of the patients was insignificant. But there are other factors as well. In our cases, parenchymal dissection was performed by the use of finger fracture technique or using electric cautry and use of clamps. In spite of care this resulted in loss of large volumes of blood. This was a major contributing factor in mortality in our cases. Also patients of HCC with cirrhosis undergoing hepatic resection when compared with non-cirrhotic, tend to have a higher postoperative mortality. Surgery in such cases removes parts of functioning liver parenchyma as well. The volume of the remnant liver then becomes a determinant of the risk of postoperative liver failure<sup>9</sup>. Similarly postoperative sepsis in the liver bed is a well-known complication that could add to the mortality. Cirrhotic patients are susceptible to infection. The result of our study indicates that over 75% of our patients had cirrhosis. The role of nutritional support during preoperative and postoperative period cannot be negated. It could help reduce the postoperative morbidity and hence mortality<sup>10</sup>. In our circumstances financial

constrains does play a very important part. Most of our patients just couldn't afford total or even partial parenteral nutrition.

Regarding hepatic resections there has been a considerable improvements in terms of survival throughout the world. Currently 1,3,5 and 10 years survival figures are 88%, 72%, 51% and 23% respectively<sup>8</sup>. Two to three decades ago one could only dream of such figures. This has been made possible with the advent of modern instruments for early diagnosis and treatment. Improvements in pre and postoperative management have also played a great role in this respect. We are far behind in this context.

### Conclusion

Hepatocellular carcinoma is amongst the commonest fatal malignancies of the body. Its incidence is on the rise throughout the world. This is especially true for the third world countries like ours. Environmental risk factors appear to have association with its causation. The most common etiological risk is the affliction with hepatitis B and C viruses. HCC is one malignancy, which could be prevented to a greater extent by immunization. Effective vaccination against HBV if carried out on an extensive nation wide basis could lead to a decreased incidence of this disease. Public awareness regarding the transmission of virus and health education is an unavoidable need of the day. Early diagnosis and intervention is also important to the successful management of HCC.

Surgery on a normal liver is taxing but it becomes even more challenging when performed on a cirrhotic liver. Surgery is an effective treatment for operable liver cancers. The morbidity and mortality following surgery in Pakistan is very high. It could be reduced by the usage of modern treatment modalities and equipment. However, the utilization and application of such expensive techniques would add to the cost of treatment. It is a need of hour that better health system should be evolved to suit the needs of the needy.

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