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ORIGINAL ARTICLE

Frequency of Response Rate of Cisplatin Plus 5-Fu Combination Chemotherapy for Management of Advanced Hepatocellular Carcinoma

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ABSTRACT

BACKGROUND: Most common primary solid tumors of the liver is hepatocellular carcinoma (HCC). Its aggressiveness and widespread spread result in a bad prognosis for patients. HCC accounts approximately 5% of all malignant neoplasias, according to estimates. Treatment of advanced HCC is a challenge for the treating oncologist. Cisplatin and 5- FU have shown promising activity in this regard. Combination of these anti-cancer drugs has shown superior response than either of the drugs used alone.

Objective: was to evaluate chemotherapeutic regimen of Cisplatin and 5-FU for advanced HCC treatment.

Materials and Methods: This case series was carried out in Department of Oncology, Jinnah hospital, Lahore in 6 months. 116 patients were included in study. Then patients were prescribed Cisplatin, and 5-FU every 3rd week for 5 months. After 5 months, clinical condition of patients was assessed by a CT scan to assess the condition of liver.

Results: Mean age was 63.79 ± 6.11 years. Gender distribution shows that 56.8 % (n=66) were males while 43.2 % (n=50) were females. Mean duration of hepatocellular carcinoma (HCC) was 27.4 ± 8.5 days. After treating the patients for 5 months with a combination chemotherapy of 5-FU and cisplatin frequency of patients with partial response was 29.3 % (n=34). 44.8 % (n=52) of the patients showed stable disease while 25.9 % (n=30) of the patients showed progressive disease.

Conclusion: We conclude that 5-FU and Cisplatin combination therapy is effective for treating advanced HCC.

Keywords: Hepatocellular carcinoma, 5-fluorouracil, cisplatin

INTRODUCTION

Incidence of HCC, is rising globally, there are startling regional disparities in risk factors and incidence. HCC accounts for more than 5% of all malignancies, approximatley 500,000 new cases per year. It mostly affects people with liver cirrhosis. It is now leading cause of mortality in these patients. Significant interest sparked by this neoplasm is explained by its clinical importance and the occurrence of several diagnostic and therapeutic problems[1]. Due to its high mortality rate, liver cancer is now 4th most prevalent cancer worldwide. Most HCC cases (around 80%) occur in Eastern Asia and sub-Saharan Africa[2]. It is generally known that drinking alcohol and the cirrhosis that results have a causal association with the development of HCC (50). Alcohol and HBV and HCV together have synergistic effects on the risk of HCC. Numerous epidemiological investigations have found a link between smoking and HCC. This demonstrates the effect of lifestyle variables on the occurrence of HCC[3].

Chemotherapy is most crucial treatment strategy for advanced HCC, despite fact that a wide variety of therapeutic choices are available for HCC. It is used to treat patients who are deemed inappropriate candidates for transarterial chemoembolization (TACE), local ablative treatment, or surgical resection because they have extrahepatic metastases, exhibit vascualar invasion, or are unresponsive to TACE[4]. The prognosis for individuals with HCC is still bad, and treatment effectiveness is still not sufficient. Systemic chemotherapy and hepatic arterial infusion chemotherapy are two types of HCC chemotherapy (HAIC)[5].

Gemcitabine, cisplatin, 5-fluorouracil (5-FU) and sorafenib have shown 0%-27% response rate, 2-6 months of time to progression (TTP) or progression-free survival. They have 3-12 months of OS when used alone or in combination with other medications. However, there isn't any conventional systemic chemotherapy available right now for those with advanced HCC[6]. There are various different types of chemo-agents for HAIC, but the most popular one is a mix of cisplatin and 5-fluorouracil (5-FU). [11] The overall survival (OS) median ranges from 5.0 to 19.5 months, while the response rate ranges from 3.8 to 38.5%. These unpredictable results are caused by the cancer's stage, the presence of portal vein thrombosis, the liver function at baseline, the dose of chemotherapeutic drugs, etc[7,8]. There is a lack of studies on response rate of Cisplatin plus 5-FU combination chemotherapy for management of advanced Hepatocellular carcinoma. Therefore, we aimed to assess the response rate of Cisplatin plus 5-FU combination chemotherapy for management of advanced Hepatocellular carcinoma.

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MATERIALS AND METHODS

Study Design: Descriptive case series
Setting: Oncology Department of Jinnah hospital, Lahore.
Study Duration: 6 months
Sample Size: Sample size of 116 patients with 95% confidence level, 7% absolute precision and considering expected frequency of progressive disease as 18 % with Cisplatin plus 5-FU combination chemotherapy for management of advanced hepatocellular carcinoma.
Sampling Technique: Consecutive non-probability sampling
Inclusion criteria: 25-75 years' patients of both gender with diagnosis of advanced hepatocellular carcinoma (as per operational definition)
Exclusion criteria: Not agreed to take part in study Poor functional status (ECOG 3-4) (Appendix III)

- Child Pugh C (Appendix IV)

Data collection procedure: 116 patients meeting inclusion criteria were enrolled in study referred to Department of Oncology, Jinnah hospital, Lahore. Written informed consent was taken. Demographic data like gender, age, cancer duration was also obtained. Then patients were prescribed Cisplatin (75 mg/m^2 Ⅳ; day 1), and 5-FU (750 mg/m^2 Ⅳ continuous; day 1-5) every 3rd week for 5 months. After 5 months, clinical condition of patients was assessed by a CT scan to assess the condition of liver. Type of response was labeled as partial response, stable or progressive. Data was analyzed by SPSS version 25.

RESULTS

Mean age was 63.79 ± 6.11 years. 40.5 % (n=47) of the patients had age 25-49 years, while 59.5 % (n=69) of patients had age 50-

75 years. Gender distribution shows that 56.8 % (n=66) were males and 43.2 % (n=50) were females. Mean duration of hepatocellular carcinoma (HCC) was 27.4 ± 8.5 days (Table No. 1).

After treating the patients for 5 months with a combination chemotherapy of 5-FU and cisplatin the frequency of patients with partial response was 29.3 % (n=34). 44.8 % (n=52) of the patients showed stable disease while 25.9 % (n=30) of the patients showed progressive disease (Table 2).

Table 1: Demographic Data of Patients

Variables	No. of patients	%
Age(in years)		
25-49	47	40.5
50-75	69	59.5
Gender		
Male	66	56.8
Female	50	43.2
Total	116	100
Duration of HCC (Days)	27.4	8.5

Response	Frequency	Percent
Partial Response	34	29.3
Stable Disease	52	44.8
Progressive Disease	30	25.9
Total	116	100.0

DISCUSSION

This study examined response rate following chemotherapeutic regimen of cisplatin plus 5-FU for treatment of advanced HCC. HCC is a very common carcinoma in developing countries owing to increased incidence of cirrhosis. Chronic hepatitis C and hepatitis B infections are the leading causes of HCC in our country. It has a huge financial burden in our population.

Different treatment strategies are available for HCC. Surgical resection of solitary lesions along with liver transplantation is the treatment of choice for liver neoplasms. Advanced HCC can be treated with systemic therapy in the form of chemotherapy. Cisplatin, 5-FU and interferon have been used for the treatment of advanced HCC. It has been shown in previous studies that combination treatment with 5-FU and cisplatin has shown to be superior than either drug used alone. Tanoika et al conducted a study with 5-FU and cisplatin for advanced HCC[9]. 38 patients (97%) completed the therapy. 18 people (47%) had a partial response, 10 had no response, and 9 had progressive illness.

Total 116 patients were enrolled in the study to determine frequency of response after Cisplatin plus 5-FU combination chemotherapy for management of advanced hepatocellular carcinoma. Mean age of patients was 63.79 ± 6.11 years. Gender distribution shows that 56.8 % (n=66) were men while 43.2 % (n=50) were women. Mean duration of hepatocellular carcinoma (HCC) was 27.4 ± 8.5 days.

After treating the patients for 5 months with a combination chemotherapy of 5-FU and cisplatin the frequency of patients with partial response was 29.3 % (n=34). 44.8 % (n=52) of the patients showed stable disease while 25.9 % (n=30) of the patients showed progressive disease. This shown that in individuals with advanced HCC, partial response was enhanced while receiving 5-FU and cisplatin. The most popular 5-FU/cisplatin regimen in South Korea was found to have an objective response rate of 22 to 32% and a CR rate of 2 to 6%[10-13]In a prospective multicenter trial in South Korea for advanced HCC with portal vein thrombus, HAIC outperformed sorafenib in terms of both treatment response and survival (HAIC; Complete response 2%, Partial 22%, SD 66%, PD 10%, OS 7.1 months vs. Sorafenib; CR 0%, PR 13%, SD 32%, PD 55%, OS 5.5 months)[14].

When comparing the findings of this study to prior investigations, several aspects should be addressed. For starters, the variability of diverse research populations might have an impact on outcomes. Unlike other solid tumours, HCC has a diverse staging system since not only tumour condition but also liver function, PS, and cancer-related symptoms might influence recommended treatment and patient prognosis[15].

CONCLUSION

We conclude that combination chemotherapy of 5-FU and cisplatin is beneficial for patients with advanced HCC.

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