A Study of Liver Cancer to Stage Factor in Korea

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Abstract. Introduction: Social drinking is pervasive culture in South Korea and perceived to be necessary in the workplace. Also, it is well known that liver cancer is unlikely to be discovered in time and its prognosis is unfavorable as well as it is a highly placed cancer in the cancer registration ranking. Therefore, it is necessary to identify the difference of survival rate depending on the stages of liver cancer so that patients design their future and differentiated approaches of the treatment or nursing could be applied to patients in accordance with it.

Methods: This study aims to analyze the proportion of the patients who are diagnosed with hepatocellular carcinoma by gender and figure out the difference of the survival rate in accordance with the stages of cancer.

Results: The distribution of liver cancer patients depending on the stages was higher in males than in females in all stages. Especially in case of liver cancer stage 4, terminal cancer, males in their 40s accounted for the largest proportion. Besides, the mortality rate in stage 3, 4 was the highest with more than 80% regarding the mortality rate distribution in liver cancer. Also, it turned out that it was likely for patients with liver cancer to be dead without any complications or co-morbidities.

Conclusion: It was verified that the survival duration in males was longer than in females after analyzing the characteristics and the survival rate of liver cancer. Since females are less likely to drink alcohol compared to males, it is unusual for females to recognize the risks of liver cancer and they tend to feel subjective symptoms less. Therefore, females should make efforts for an early detection of liver cancer through medical checkup. Furthermore, it is necessary to apply differentiated approach when nursing stage 1, 2 liver cancer patients by considering the low survival rate of stage 3, 4 liver cancer patients.

Keywords: Liver Cancer, Stage factors, TNM Stage

1 Introduction

In South Korea, the incidence of liver cancer is significant due to the fact that social drinking, characteristic of 'social network', is pervasive culture. Also, it is well known that liver cancer is unlikely to be discovered in time and its prognosis is
unfavorable as well as it is a highly placed cancer in the cancer registration ranking. There is a research analyzing clinical features of hepatocellular carcinoma with reference to ages in Korean patient performed by the department of internal medicine in Hanyang University in 2000. And there is a cohort research in terms of 5-year survival rate of hepatocellular carcinoma patients conducted by the national cancer center as well. Liver cancer, occurred in liver, is usually defined as hepatocellular carcinoma which has the highest occurrence frequency among primary liver cancers in adults [1].

Hepatocellular carcinoma originated from hepatocyte accounts for the largest proportion with approximately 85% of all primary liver cancers in South Korea and followed by cholangio carcinoma. On the other hand, the incidences of other cancers are not significant compared to them [2].

Unlike other cancers, liver cancer is diagnosed through diagnostic imaging examination and blood test using tumor market test. However, biopsy should be taken if it is not diagnosed despite those examinations [3].

Consequently, when classifying the stages which are the standards of predicting prognosis and deciding treatment protocol, it is classified into 4 stages (stage 1, stage 2, stage 3 and stage 4) according to the progress of cancer like other carcinoma. Besides, the Child-Pugh grades (grade A, grade B, grade C) of liver function should be considered together when classifying [4]. Therefore, it is necessary to identify the difference of survival rate depending on the stages of liver cancer so that patients design their future and differentiated approaches of the treatment or nursing could be applied to patients in accordance with it.

2 Method

2.1 Study Design

This study verified the difference of survival rate depending on the stages of liver cancer. It will be investigated by analyzing medical records of 1,804 patients who were segmented according to the stages with the result of histopathology examination.

2.2 Subjects of Study

This study was carried out based on the claims data from 2008 to 2011 targeting the beneficiary due to insurance against liver cancer. First of all, the purpose of the research was explained to them. And among them, only the people who understand the purpose of the research, agreed to it and signed their own autograph were selected as an object of study.

The medical records which were capable of being classified according to the stages were used as an analytical data in this study. There were total 1,804 medical records and it was classified by 4 nurses and then reexamined by 1 doctor.
2.3 Data analysis

Collected data were analyzed by using SAS 3.0 program. Follow up survey was carried out for 5 years from January 2009 until December 2013. 5-year survival rate of liver cancer was calculated by using the life table method.

3 Result

3.1 The point of diagnosis and the distribution of follow-up period

This study was implemented for 5 years from January 2009 until December 2013. There were total 1804 cases including 636 cases in 2009, 614 cases in 2010 and 554 cases in 2011.

Survival duration was defined from the point of diagnosed to death or amputation. In case of survival duration with more than 60 months, right censoring was applied (Table 1).

<table>
<thead>
<tr>
<th>The point of diagnosis</th>
<th>Follow-up year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>2009</td>
<td>113cases</td>
</tr>
<tr>
<td>2010</td>
<td>115cases</td>
</tr>
<tr>
<td>2011</td>
<td>102cases</td>
</tr>
</tbody>
</table>

3.2 The distribution of 5-year survival rate in liver cancer patients

Regarding the distribution of 5-year survival rate in liver cancer patients, it turned out that 75% of patients were survived in case of liver cancer stage 1 whereas only 11% of patients were survived when it was liver cancer stage 4 (terminal cancer) (Table 2).

<table>
<thead>
<tr>
<th>Stages</th>
<th>1-year</th>
<th>2-year</th>
<th>3-year</th>
<th>4-year</th>
<th>5-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>94.9%</td>
<td>89.5%</td>
<td>83.3%</td>
<td>78.8%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>91.8%</td>
<td>83.3%</td>
<td>73.3%</td>
<td>67.0%</td>
<td>61.0%</td>
</tr>
</tbody>
</table>

Table 1. The point of diagnosis and the distribution of follow-up period (n=1,804)

Table 2. The distribution of 5-year survival rate in liver cancer patients (n=1,804)
4 Conclusion

To sum up, after analyzing total 1804 of medical records for 5 years as a follow up survey from January 2009 until December 2013, it turned out that the 5-year survival curve of liver cancer patients has a significant difference depending on each stage. Regarding the survival duration of liver cancer patients, 1-year survival rate and 5-year survival rate was 94.9% and 75.0% respectively in stage 1. Also, it appeared 91.8%, 61.0% in case of stage 2 and 44.4% and 14.4% in stage 3 respectively. Lastly, 1-year survival rate was 29.2% and 5-year survival rate was 11.2% in stage 4. And this result shows that the survival rate in stage 3, 4 decline rapidly compared to stage 1, 2.

Therefore, differentiated approach of the treatment or nursing should be provided according to the stages of cancer. However, you have to bear in mind that this study was performed using the data from only 1 company.

References