

### Survival Factors of Gallbladder Carcinoma

Hyun Soo Kim, M.D., Jin Heon Lee, M.D., Jae Bock Chung, M.D.,  
Si Young Song, M.D., Jin Kyung Kang, M.D., In Suh Park, M.D.,  
Jin Sup Choi, M.D.\* and Byong Ro Kim, M.D.\*

*Departments of Internal Medicine and Surgery\*, Institute of Gastroenterology,  
Yonsei University College of Medicine, Seoul, Korea*

**Background/Aims:** The purpose of this study was to assess the prognostic factors affecting the survival of gallbladder carcinoma. **Methods:** Two hundred five patients with gallbladder carcinoma, who were admitted to Severance Hospital, Yonsei University from January 1986 to December 1996, were reviewed. **Results:** According to TNM stage, the mean survival time of patients in stage I (13 cases), II (13 cases), III (41 cases), IVA (54 cases) and IVB (110 cases) was 111, 40, 28, 10, and 4 months, respectively. There was a significant decrease in the survival time according to the stage progression. The median survival time of the patients was 16 months in 86 cases of surgical treatment, and 4 months in 145 cases of conservative treatment (p<0.001). The mean survival time in curative resection group (42 cases) was 84 months, which was longer than 10 months in palliative group (44 cases) (p<0.001). There was no significant difference in the survival time according to the types of curative resection or the postoperative treatment. **Conclusions:** The survival factors of the gallbladder carcinoma were TNM stage of patients and treatment modalities. However, the type of curative surgery and postoperative treatment in curative resection group did not affect the survival. **(Kor J Gastroenterol 2000;35:367 - 377)**

**Key Words:** Gallbladder carcinoma, Survival factors, Recurrence, Treatment

: 1999 0 00 , : 1999 5 31  
: , 120-752, 134

Tel: (02) 361-5427, Fax: (02) 365-2125  
1997

60

가

가 가 가

가 . 1960  
 1978 5,836  
 5 4% .1  
 24 20%

1996 12 .5 1986 1  
 255

1. 1986 1 1996 12 11  
 가 255  
 295

TNM 1997 9 30  
 255

chi-square test Student t-test  
 log-rank test Wil-  
 coxon test Kaplan-  
 Meier

1. 28 90  
 (± ) 61.0 (±9.8) 60 가  
 75 (29.4%) 가 . 255  
 103 , 152 0.68:1 .  
 255  
 5 , 6 (p=0.207)  
 (Table 1).

2. 255 231 가  
 1 2 가 13  
 (5.6%), 3 가 41 (17.7%), 4A 가 54 (23.4%)  
 4B 가 110 (47.6%) . 1 2  
 111 , 40 ,  
 3 28 , 4A 4B  
 10 4 가  
 (p=0.001)(Fig. 1, Table 2).

3. 231

**Table 1.** Age and Sex Distribution of the Subjects

Age (year)	Male	Female	Total (%)
20-29	0	1	1 ( 0.4)
30-39	5	0	5 ( 2.0)
40-49	15	16	31 ( 12.2)
50-59	34	39	73 ( 28.6)
60-69	24	51	75 ( 29.4)
70-79	21	35	56 ( 22.0)
80	4	10	14 ( 5.5)
Total	103	152	255 (100.0)

42 (18.2%) , (21.4%), 가  
 44 (19.0%), 가 10 (23.8%),  
 145 (62.8%) . 가 가 5 (11.9%)  
 48  
 8 가 가  
 ( $p < 0.001$ )(Fig. 2),  
 84 (Fig. 4, Table 3).  
 18  
 10 ( $p < 0.001$ )(Fig. 3). (42.9%) , 24 (57.1%)  
 42 55 96  
 가 18 (42.9%), 가 가 9 ( $p = 0.169$ )(Table 4). 3 4A  
 (p=0.929)(Fig. 5).

**Table 2.** The Survival Time according to TNM Stage

Stage	No. (%)	Survival (months)*
1	13 ( 5.6)	110.7 ± 8.0
2	13 ( 5.6)	39.5 ± 6.0
3	41 (17.7)	28.3 ± 4.9
4A	54 (23.4)	9.9 ± 1.7
4B	110 (47.6)	4.3 ± 0.4

\* Mean ± S.E.

**Fig. 1.** Survival rates of patients according to TNM stage of the disease. There was a significant decrease of the survival according to the stage progression ( $p = 0.001$ ).

**Fig. 2.** Survival rates of patients according to operative vs conservative treatment. The survival rate of patients who had surgical treatment was significantly higher than that of patients who had conservative treatment ( $p < 0.001$ ).

**Fig. 3.** Survival rates of patients according to the curative vs palliative surgery. The survival rate of curative resection group was definitely higher than that of palliative resection group ( $p < 0.001$ ).

**Fig. 4.** Survival rates of patients according to the types of curative resection. There were no significant differences in the survival time according to the methods of curative surgery (\*p=0.397).

**Table 3.** Survival Time according to the Treatment Modalities

Treatment modalities	No. (%)	Survival (months)*
Conservative treatment	145 (62.8)	8.4 ± 1.3 †
Surgical treatment	86 (37.2)	47.8 ± 9.0 †
Palliative surgery	44 (51.2)	10.0 ± 1.4 †
Curative surgery	42 (48.8)	84.3 ± 7.9 †
Cholecystectomy (CCT)	18 (42.9)	70.0 ± 7.5
CCT with wedge resection	9 (21.4)	62.4 ± 10.8
Radical CCT (RCCT)	10 (23.8)	41.9 ± 6.9
RCCT with bile duct resection	5 (11.9)	70.9 ± 25.5

\* Mean ± S.E.

† p<0.001.

**Table 4.** Survival Time after Curative Resection With or Without Adjuvant Therapy

Treatment modalities	No. (%)	Survival (months)*
Postoperative radiotherapy/chemotherapy	18 (42.9)	54.6 ± 8.1 †
Curative resection only	24 (57.1)	95.6 ± 9.3 †

\* Mean ± S.E.

† p=0.169.

3 , 2 , 1 ,  
 29 (69.0%) 1 13 12 1  
 (92.3%), 2 9 9 (100%), 3 17 , ,  
 6 (35.3%), 4A 3 2 (66.7%) . , , ,  
 가 10 3 , ,

**Fig. 5.** Survival rates of patients according to postoperative treatment modalities in stage 3 and 4A disease. There were no significant differences in the survival time according to the types of curative resection or the postoperative treatment (p=0.929).

**Table 5.** Comparison between Recurred and Non-Recurred Patients after Curative Resection

Characteristics	Recurred (n=10)	Non-recurred (n=27)	p-value
Age (years)	63.8 ± 8.5*	57.9 ± 11.4*	NS
Sex (M:F)	2:8	7 : 20	NS
Stages (%)	1 (10.0)	11 (40.7)	0.048
1			
2	1 (10.0)	7 (25.9)	
3	7 (70.0)	7 (25.9)	
4A	1 (10.0)	2 ( 7.4)	
Tumor size (cm)	3.4 ± 2.2	3.6 ± 2.6	NS
Node metastasis (%)	3/10 (30.0)	3/27 (11.1)	NS
Postop. chemo/radiotherapy	7/10 (70.0)	9/27 (33.3)	NS
Mean survival time (month)	20.2 ± 10.9	49 ± 25	0.001
Current survival (%)	2/10 (20.0)	27/27 (100.0)	0.000

\* Mean ± S.E.

(Table 5), 가 . 80%가  
가 가 60-80% 1  
. 5.2 .11  
가 가 231 42 (18.2%)  
가 가 .  
85%가 (adenocarci- 가 가 .  
noma) 10% (squamous) (GB bed) ,  
(adenosquamous carcinoma) 5% (R1),  
(sarcoma), (clear cell carcinoma), (R2) (celiac axis),  
(well-differentiated neuroendocrine (aortocaval area) .  
tumor) .67 (trocar  
site)  
가 .  
, 가 (locoregional metastasis)  
.7 가 가 ,  
(histologic grade) G1 .1213  
(well-differentiated), G2 (mo- 가 가  
derately-differentiated), G3 (poorly-differen- 가 가  
tiated), G4 (undifferentiated) 가 가  
가 , 가 가 .  
가 가 .8 ,  
가 , . 151  
, 가 34% 가  
가 84% 4, 5  
. 25%가  
가 5 (cystic duct), (common  
20% hepatic duct) (common bile duct)  
가 24% , 14%  
. 9 .12  
1 5 85%  
,10 2 25%, 3 10% 4  
2% .5 T 2-3  
.14

4, 5 가 15% .18

2

, T2 T3 가 .14

가

T T1 가

5 95% .15 15-25% 가

가 가 (well-differ- entiated cell type), 가 가 가

8-16% 가 .1 1 (Fig. 1). T2 90% 86%

가 가

15-17 T2 5 .21

40%, 가

90% T2 가

가

3 .15 가 (EBRT, external beam radiotherapy)

6 5 0% , 2%

5 30% ,5 3 (IORT, intraoperative radiotherapy)

4 18-24 , 5 ,224

15-25% .18 3 4 가 가 3 4

5 52%

5% 가 8-10 2-3 (randomized study)가 .21,25 4

.19

,20 600 30%



가 0% , 가 ,

가 4,500-5,000 rad .26

3 4A

:

가 5

4%

가 : 1986 1 1996 12

가 가

5-FU (fluorouracil) 255

10-30%,27,29 mitomycin, cisplatin 2 가 231

10% 1 2 가 13 (5.6%), 3 가

doxorubicin, nitrosourea 41 (17.7%), 4A 가 54 (23.4%) 4B

가 110 (47.6%)

111 , 40 , 28 , 10 4 가

(p=0.001). 231

42 (18.2%),

44 (19.0%),

145 (62.8%) .

(laparoendoscopic cholecystectomy) (trocar 4 (p<0.001), 84

site seeding) .31 10 (p<

(desquamation) 0.001). 42

(invasive tumor) 18 (42.9%), 가

가 9 (21.4%), (

) 10 (23.8%)

10 1 trocar 가 가 5 (11.9%)

가 37

가 가 42

18 (42.9%)

37 10 (23.8%)  
14 9 가  
1

:

가

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