

Chapter 6

Cancers of the Liver and Biliary Tract

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INTRODUCTION

In the 14 year period, 1988-2001, the SEER Program recorded 22,065 cancers of the liver and intrahepatic bile ducts, 5,723 gallbladder cancers, 2,474 cancers of the ampulla of Vater and 3,908 other biliary cancers (mostly cancers of the extrahepatic bile duct).

The tables and text in this chapter address some of the patient characteristics (Sex, Race and Age) and tumor characteristics (Tumor Stage, Grade, Size, Subsite Location and Histology) that may be associated with differences in patients' prognosis and outcome.

The text primarily cites 5-year relative survival as the primary outcome measure because of its wide general use. However, for cancers associated with poor survival, readers may find the tabulations of 1-, 2-, and 3-year relative survivals to be more informative.

MATERIALS AND METHODS

The NCI contracts with medically-oriented, nonprofit institutions located in specific geographic areas to obtain data on all cancers diagnosed in residents of the SEER geographic areas. SEER collects data on all invasive and in situ cancers except basal cell and squamous cell carcinomas of the skin (of non-genital anatomic sites) and in situ carcinomas of the uterine cervix. SEER actively follows all previously diagnosed patients on an annual basis to obtain vital status allowing the calculation of observed and relative survival rates.

This analysis is based on data from 12 SEER geographic areas which collectively cover about 14% of the total US population. The areas are the States of Connecticut, Iowa, New Mexico, Utah, and Hawaii; the metropolitan areas of Detroit, Michigan; Atlanta, Georgia; San Francisco, San Jose, and Los Angeles, California; Seattle, Washington; and 10 counties in rural Georgia. Los Angeles contributed data for diagnosis years 1992 to 2001, all other areas for 1988-2001.

Table 6.1: Liver and Biliary Tract Cancer: Number of Cases and Exclusions by Reason, 12 SEER Areas, 1988-2001

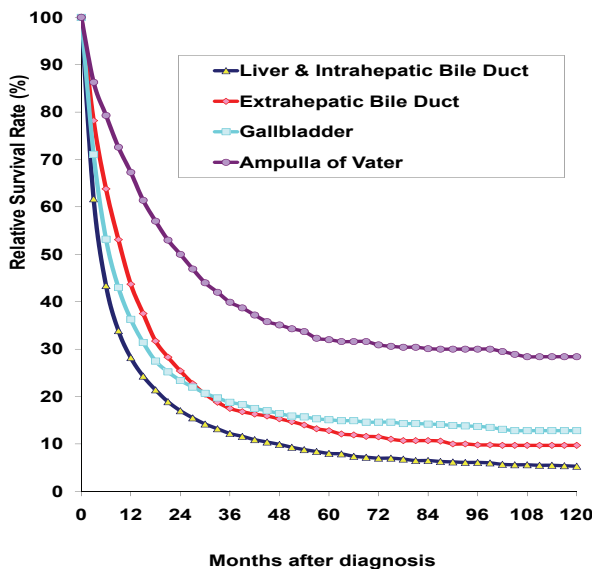
Liver & Intrahepatic Bile Duct		Gallbladder		Other Biliary		Ampulla of Vater		Reason for Exclusion/selection
Number Selected/ Remaining	Number Excluded	Number Selected/ Remaining	Number Excluded	Number Selected/ Remaining	Number Excluded	Number Selected/ Remaining	Number Excluded	
22,065	0	5,723	0	3,908	0	2,474	0	Select 1988-2001 diagnosis (Los Angeles for 1992-2001 only)
19,717	2,348	5,041	682	3,344	564	2,050	424	Select first primary only
18,747	970	4,962	79	3,271	73	2,039	11	Exclude death certificate only or at autopsy
18,657	90	4,945	17	3,266	5	2,032	7	Exclude unknown race and alive with no survival time
18,364	293	4,755	190	3,239	27	1,995	37	Exclude children (000-019) and in situ cancers
13,622	4,742	4,458	297	2,660	579	1,873	122	Exclude no or unknown microscopic confirmation
13,409	213	4,392	66	2,640	20	1,832	41	Exclude sarcomas (including stromal 8930-8939) and carcinoids

The following cases were excluded from this survival analysis: patients for whom liver or biliary tract cancer was not the first primary, cases diagnosed at autopsy or by death certificate only, persons of unknown race, alive with no recorded survival time, patients less than 20 years old, and cases without microscopic confirmation. Since some of the exclusions had very small cell sizes, some of the reasons for exclusion were combined. Sarcomas, lymphomas and carcinoids are excluded here from this analysis which focuses primarily on the cancers of epithelial origin (carcinomas). Remaining cases available for analysis are as follows: 13,409 liver & intrahepatic bile duct cancers; 4,392 gallbladder cancers; 2,640 other biliary (mostly extrahepatic bile duct) cancers, and 1,832 cancers of the ampulla of Vater (Table 6.1). Carcinoids are shown separately in the relative survival tables by histologic type but they are not included in the total cases.

Survival analysis is based on relative survival rates calculated by the life-table (actuarial) method. Relative survival, defined as observed survival in the cohort divided by expected survival in the cohort, adjusts for the expected mortality that the cohort would experience from other causes of death. Expected survival is based on decennial life tables for the United States in 1990.

The staging definitions utilized in this chapter are SEER historic stage: localized – confined to the primary site; regional – spread to regional lymph nodes or by direct extension beyond the primary; distant – metastatic spread.

Figure 6.1: Relative Survival Rates (%) by Primary Site (Liver & Intrahepatic Bile Duct, Extrahepatic Bile Duct, Gallbladder, Ampulla of Vater) and Months after Diagnosis, Ages 20+, 12 SEER Areas, 1988-2001



RESULTS

Cancers of the liver & intrahepatic bile duct, gallbladder and extrahepatic bile duct all have low survival rates. The survival rates decrease rapidly during the first 3 years after diagnosis and then the rates plateau after about 5-years (Figure 6.1). The survival rates for ampulla of Vater are much higher than the other 3 cancers.

Cancers of the Liver and Intrahepatic Ducts

Sex, Race and Age

Among 13,409 adult cases of liver or intrahepatic bile duct cancer, almost twice as many cases occurred in males (69%) over females (31%). However, relative survival rates are consistently at least one percentage point higher for females

Figure 6.2: Cancer of the Liver and Intrahepatic Bile Duct: 5-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, Primary Site, Tumor Size, and Histology, Ages 20+, 12 SEER Areas, 1988-2001

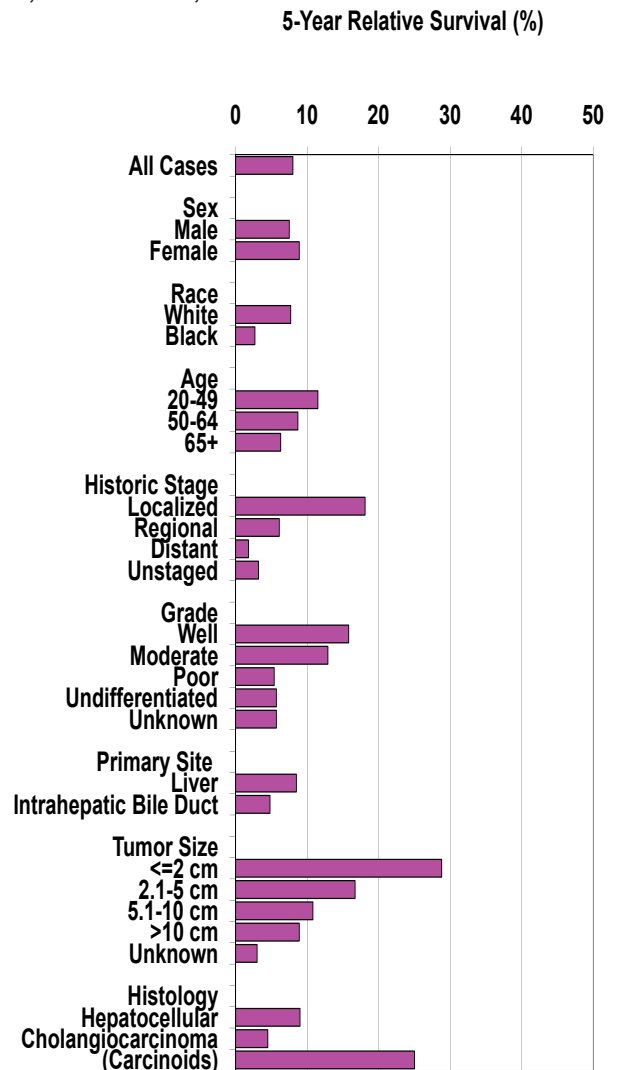


Table 6.2: Cancer of the Liver and Intrahepatic Bile Duct (excluding carcinoids): Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, Primary Site and Tumor Size, Ages 20+, 12 SEER Areas, 1988-2001

Characteristics	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases	13,409	100.0	4.6	28.2	17.0	12.2	8.0	6.1	5.3
Sex									
Male	9,224	68.8	4.3	27.2	16.3	11.7	7.5	5.9	4.7
Female	4,185	31.2	5.3	30.5	18.7	13.3	8.9	6.5	6.3
Race									
White	8,619	64.3	4.3	26.8	16.2	11.6	7.7	5.9	5.3
Black	1,497	11.2	3.5	22.1	11.4	7.6	2.7	1.5	1.5
Other	3,293	24.6	6.0	-	-	-	-	-	-
Age									
20-49	2,030	15.1	5.5	32.3	20.7	15.6	11.5	9.0	8.3
50-64	4,235	31.6	5.0	30.8	19.0	14.3	8.7	6.5	5.3
65+	7,144	53.3	4.1	25.4	14.7	9.9	6.3	4.6	4.0
Historic Stage									
Localized	4,021	30.0	9.8	46.9	33.0	25.4	18.1	14.4	12.5
Regional	3,487	26.0	4.8	27.5	14.1	9.8	6.1	4.2	3.3
Distant	3,299	24.6	2.8	12.3	5.4	3.2	1.8	1.1	1.1
Unstaged	2,602	19.4	3.7	20.5	11.3	6.9	3.2	2.2	2.0
Grade									
Well	1,717	12.8	10.3	47.5	32.0	24.3	15.8	13.1	10.7
Moderate	1,860	13.9	7.0	38.0	24.9	19.2	12.9	9.0	7.5
Poor	1,904	14.2	3.4	20.7	11.2	7.3	5.4	3.0	2.7
Undifferentiated	273	2.0	2.7	18.2	9.9	6.6	5.7	5.7	3.4
Unknown	7,655	57.1	4.0	23.7	13.5	9.3	5.7	4.4	4.0
Primary Site									
Liver	11,598	86.5	4.4	28.2	17.5	12.9	8.5	6.5	5.6
Intrahepatic Bile Duct	1,811	13.5	5.6	27.9	14.5	8.5	4.8	3.4	3.2
Tumor Size									
≤2 cm	489	3.6	18.8	59.0	47.0	39.4	28.8	23.8	17.3
2.1-5 cm	2,077	15.5	10.2	47.5	33.3	24.7	16.7	13.0	10.9
5.1-10 cm	2,386	17.8	6.4	36.2	21.2	15.5	10.8	7.9	6.4
>10 cm	1,236	9.2	5.4	30.1	16.7	11.8	8.9	7.3	6.8
Unknown	7,221	53.9	3.2	17.5	9.1	5.9	3.0	2.0	1.8

! Not enough intervals to produce rate.

- Not calculated.

(31% at 1 year, 19% at 2 years, 13% at 3 years, 9% at 5 years, 7% at 8 years and 6% at 10 years) than males (27%, 16%, 12%, 8%, 6% and 5% for 1-, 2-, 3-, 5-, 8-, and 10-year relative survival rates, respectively).

Other races had a higher median survival with 6 months, followed by whites with 4 months and then blacks with 3 months. Younger age had better relative survival rates, with a 5 year relative survival rate of 12% amongst 20-49 year

olds, compared to 6% amongst those patients 65 and over (Table 6.2, Figure 6.2)).

Tumor Stage, Grade and Size

Localized tumor stage, well differentiated tumor grade and moderate differentiated tumor grade were associated with 5-year relative survival rates greater than 10%. Tumor size less or equal to 2 cm had a 5-year relative survival rate of 29%. Tumor size was unknown for more than half of the

cases and the 5-year relative survival rates was only 3% (Table 6.2, Figure 6.2)

Liver Subsite and Histology

Histologic classification separates hepatocellular carcinomas (liver cell origin) from adenocarcinomas arising from ductal or glandular structures (grouped here as cholangiocarcinomas, probably arising from intrahepatic bile ducts).

The histologic designation seems preferable to the subsite designation for distinguishing between these two major liver cancer types because many adenocarcinomas (cholangiocarcinomas) are included under the liver site code. Hepatocellular carcinomas were four times more common and 5-year relative survival rates were double that of cholangiocarcinomas (9% vs. 5% respectively), although median survival time for both is less than 5 months (Table 6.3).

The 77 cases of primary carcinoid tumors arising in the liver had a median survival time of about 12 months and 25% relative survival at 5 years.

Cancers of the Gallbladder

Sex, Race and Age

Cases of cancer of the gallbladder were three times more common in females than males, with survival about equal. More than 70% of patients were diagnosed at 65 years of age or older. Their median survival time (5.5 months) was about half of that characterized in the younger age groups (10 and 9 months for ages 20-49 and 50-64 years, respectively). At five years, the relative survival for ages 50-64 years (15%) was more comparable to the older (14%) rather than the younger age group (22%; Table 6.4) Five year relative survival rates were similar for whites and blacks (14 and 13%; Table 6.4).

Tumor Stage, Grade and Size

The 5-year relative survival rate was over 40% for cases with localized tumor stage. Well differentiated tumors and tumors ≤ 2 cm had 5-year relative survival rates greater than 30%, whilst distant stage, poor differentiation, and tumors > 10 cm had 5-year relative survival rate between 0-7% (Table 6.4, Figure 6.3).

Table 6.3: Cancer of the Liver and Intrahepatic Bile Duct: Histologic Distribution and Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates (%) by Histology, Ages 20+, 12 SEER Areas, 1988-2001

Histology	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases excluding carcinoids	13,409	100.0	4.6	28.2	17.0	12.2	8.0	6.1	5.3
Carcinomas excluding carcinoids									
8010-8572	13,290	99.1	4.6	28.3	17.1	12.3	8.0	6.1	5.3
Hepatocellular carcinoma									
8170-8171	9,981	74.4	4.6	29.3	18.3	13.5	9.0	7.0	6.0
Cholangiocarcinoma									
8050,8140-8141, 8160-8161,8260, 8440,8480-8500, 8550,8560,8570-8572	2,463	18.4	4.6	24.6	12.9	7.9	4.5	2.9	2.6
Other specified carcinoma	453	3.4	7.4	38.4	23.1	15.4	9.8	6.9	6.9
Unspecified carcinoma									
8010-8034	393	2.9	2.8	15.2	6.5	4.3	2.4	1.3	!
Hepatoblastoma									
8970	<5	0.0	~	~	~	~	~	~	~
Unspecified cancer									
8000-8004	112	0.8	2.6	16.9	8.2	8.2	5.9	4.4	!
Other specified cancer									
9064,9364,9500	<5	0.0	~	~	~	~	~	~	~
Carcinoids									
8240-8246	77	-	12.8	55.0	40.9	35.5	25.0	7.3	!

! Not enough intervals to produce rate.

- Not calculated.

~ Statistic not displayed due to less than 25 cases.

Gallbladder Histology

The histologic type was almost all adenocarcinomas (91%). The relative survival rate was similar between squamous cell carcinomas and adenocarcinomas (Table 6.5).

Other Biliary Cancers

Sex, Race and Age

Slightly more cases occurred in males (52%) than females and they had better 5-year relative survival rates (14% vs. 10%). Whites had better 5-year relative survival rates of 13% compared with blacks (8%) and there was an age gradient with patients between 20-49 years old having 5-year

survival rates three times of those 65 and older, 24% and 8%, respectively (Table 6.6, Figure 6.4).

Tumor Stage, Grade, and Size

Five-year survival was over 20% for localized tumors, well differentiated tumors, and tumors ≤ 2 cm. Tumor grade was very prognostic. For example, the gradient of relative survival at 2 years ranged from 40% for well differentiated tumors down to 10% for undifferentiated tumors. The tumor size was unknown for most of these cancers, but there was a survival differential for those with known tumor size from 30% at 5 years for small tumors and only 11% for 5.1-10 cm tumors (Table 6.6, Figure 6.4).

Table 6.4: Cancer of the Gallbladder (excluding carcinoids): Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, and Tumor Size, Ages 20+, 12 SEER Areas, 1988-2001

Characteristics	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases	4,392	100.0	6.5	36.3	23.4	18.9	15.1	13.7	12.8
Sex									
Male	1,131	25.8	6.2	35.5	23.2	18.0	14.9	12.8	12.0
Female	3,261	74.2	6.6	36.6	23.5	19.2	15.1	13.9	13.0
Race									
White	3,511	79.9	6.4	35.9	22.9	18.5	14.3	13.1	12.2
Black	329	7.5	5.5	32.0	19.1	14.6	13.1	11.7	9.7
Other	552	12.6	8.4	-	-	-	-	-	-
Age									
20-49	287	6.5	10.4	46.8	30.9	27.1	22.3	18.8	17.8
50-64	954	21.7	9.1	41.3	25.2	19.1	15.0	12.7	12.7
65+	3,151	71.7	5.5	33.8	22.1	17.9	14.2	13.4	12.0
Historic Stage									
Localized	943	21.5	24.8	71.3	55.7	48.7	41.7	39.5	36.8
Regional	1,752	39.9	8.4	41.4	24.5	18.3	13.6	11.4	10.8
Distant	1,578	35.9	3.2	10.4	2.8	2.0	1.2	0.9	0.9
Unstaged	119	2.7	6.0	30.6	26.3	17.8	13.1	10.9	10.6
Grade									
Well	492	11.2	21.0	62.8	50.5	41.8	33.7	31.5	30.0
Moderate	1,288	29.3	9.9	46.3	31.4	24.6	19.7	17.2	16.5
Poor	1,526	34.7	4.9	25.6	12.0	9.4	6.9	5.4	5.3
Undifferentiated	120	2.7	3.6	24.1	13.7	11.7	7.9	7.9	3.2
Unknown	966	22.0	4.7	28.1	18.3	15.4	12.8	12.8	11.3
Tumor Size									
≤ 2 cm	449	10.2	18.3	62.5	46.6	40.1	34.7	31.9	29.5
2.1-5 cm	627	14.3	10.3	48.1	29.2	24.2	19.0	16.2	14.5
5.1-10 cm	271	6.2	4.8	26.4	12.6	11.4	10.7	10.7	10.7
>10 cm	40	0.9	3.8	18.0	2.7	2.7	0.0	!	!
Unknown	3,005	68.4	5.5	31.1	20.0	15.5	12.0	10.9	10.2

! Not enough intervals to produce rate.
- Not calculated.

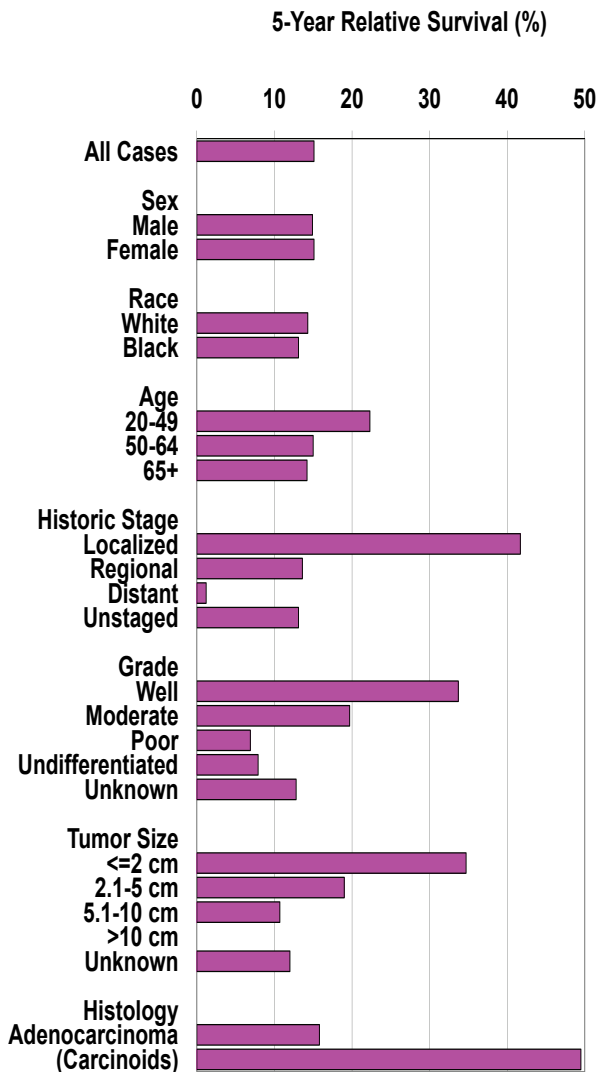
Other Biliary Subsite and Histology

Most of the cancers described under ‘Other biliary’ were in the extrahepatic bile duct (86%). Almost all of the cases were carcinomas and of these the majority were adenocarcinoma (Table 6.7). There were very few carcinoids in other biliary (Table 6.7).

Cancers of the Ampulla of Vater

Cancers of the Ampulla of Vater showed better survival than the other cancers in this chapter (Figure 6.1). But these cancers are less common, only 8% of the liver and biliary tract cancers. Five-year relative survival rates by tumor and patient characteristics are summarized in Figure 6.5.

Figure 6.3: Cancer of the Gallbladder: 5-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, Tumor Size, and Histology, Ages 20+, 12 SEER Areas, 1988-2001



Sex, Race, and Age

There were slightly more males (55%) than females (45%) and males had slightly better survival rates after 2 years after diagnosis (Table 6.8). Survival rates are higher for white patients than black patients but the survival advantage narrowed over time since diagnosis. At 2 years after diagnosis, 51% of white patients survived compared to only 38% for blacks, but at 10-years after diagnosis, the rates were 29 and 26%, respectively.

Tumor Stage, Grade and Size

There were survival gradients for stage, grade, and size. Five-year relative survival was over 50% for localized tumors and well differentiated tumors. Survival rates were

Figure 6.4: Cancer of Other Biliary Sites: 5-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, Primary Site, Tumor Size, and Histology, Ages 20+, 12 SEER Areas, 1988-2001

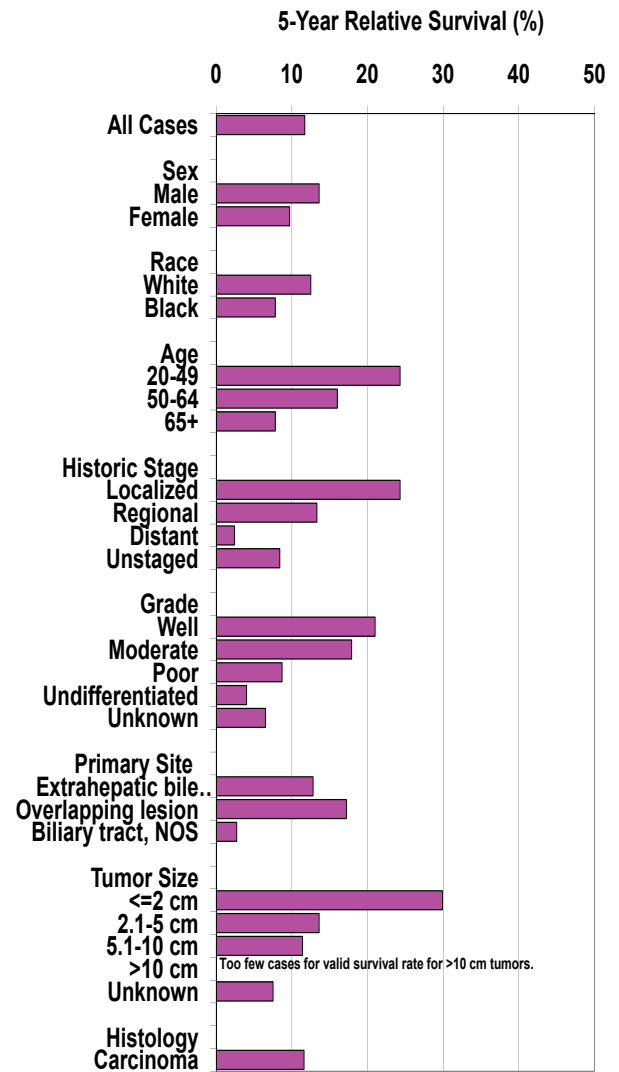


Table 6.5: Cancer of the Gallbladder: Distribution and Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates (%) by Histology, Ages 20+, 12 SEER Areas, 1988-2001

Histology/ ICD-O code	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases excluding carcinoids	4,392	100.0	6.5	36.3	23.4	18.9	15.1	13.7	12.8
Carcinoma excluding carcinoids 8010-8231,8247-8572	4,369	99.5	6.5	36.4	23.4	18.9	15.1	13.7	12.8
Squamous-cell carcinoma 8050-8076	78	1.8	4.6	22.0	16.6	16.6	16.5	15.6	11.4
Adenocarcinoma 8140-8141,8191-8231, 8260-8263,8310,8430, 8480-8490,8560, 8570-8572	4,000	91.1	6.9	37.7	24.5	19.7	15.8	14.2	13.2
Other specified carcinomas	81	1.8	8.4	40.5	9.6	5.9	5.9	!	!
Unspecified carcinoma 8010-8034	210	4.8	3.0	14.9	9.7	7.1	4.9	4.9	4.9
Unspecified Cancer 8000-8004	18	0.4	~	~	~	~	~	~	~
Other specified cancer 8720,8940	5	0.1	~	~	~	~	~	~	~
Carcinoids 8240-8246	46	-	21.4	62.9	49.9	49.9	49.5	49.5	49.5

! Not enough intervals to produce rate.

- Not calculated.

~ Statistic not displayed due to less than 25 cases.

very poor for those with distant disease with the 3-year survival rate of less than 1%. However, less than 10% of the patients had distant spread at the time of diagnosis (Table 6.8).

Histology

Nearly all of the tumors were carcinomas and most of those were adenocarcinomas. There were few carcinoids but the survival rates for those with carcinoids was much higher even after only 1-year, 76%, compared to those with carcinomas (67%) (Table 6.9).

DISCUSSION

Overall survival rates were similar for liver, gallbladder, and other biliary cancers. Survival rates were higher for cancer of the ampulla of Vater, behaving more like those of the small intestine (1).

REFERENCES

1. Key C and Meisner A. Cancers of the Esophagus, Stomach, and Small Intestine. In Ries LAG, Young JL, Keel GE, Eisner MP, Lin YD, Horner, M-J (editors). SEER Survival Monograph: Cancer Survival Among Adults: U.S. SEER Program, 1988-2001, Patient and Tumor Characteristics. National Cancer Institute, SEER Program. NIH Pub. No. 07-6215, 2007.

Table 6.6: Other Biliary Cancer (excluding ampulla & carcinoids): Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, Primary Site and Tumor Size, Ages 20+, 12 SEER Areas, 1988-2001

Characteristics	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases	2,640	100.0	8.4	40.6	23.3	16.0	11.7	8.9	8.6
Sex									
Male	1,376	52.1	9.4	44.2	25.3	17.1	13.6	10.7	10.7
Female	1,264	47.9	7.3	36.7	21.2	14.9	9.7	7.0	6.3
Race									
White	2,082	78.9	8.3	40.2	23.5	16.5	12.5	10.1	10.0
Black	177	6.7	6.4	38.1	20.6	12.7	7.8	3.5	!
Other	381	14.4	9.1	-	-	-	-	-	-
Age									
20-49	217	8.2	15.1	53.8	34.4	28.2	24.3	16.8	16.8
50-64	632	23.9	12.3	51.2	31.3	23.0	16.0	12.3	11.9
65+	1,791	67.8	6.6	35.0	18.7	11.5	7.8	5.3	4.7
Historic Stage									
Localized	445	16.9	15.2	58.2	41.3	33.2	24.3	19.5	19.5
Regional	1,100	41.7	12.0	51.6	29.1	19.3	13.3	9.7	8.8
Distant	645	24.4	3.4	14.3	4.9	2.5	2.4	1.1	1.1
Unstaged	450	17.0	6.8	33.7	17.3	9.8	8.4	6.1	6.1
Grade									
Well	315	11.9	16.2	59.1	40.2	32.4	21.0	14.9	12.8
Moderate	675	25.6	12.7	53.8	32.7	22.9	17.9	12.5	12.5
Poor	509	19.3	7.8	37.5	20.8	13.3	8.7	5.3	4.3
Undifferentiated	43	1.6	5.4	33.9	10.1	7.7	4.0	4.0	!
Unknown	1,098	41.6	5.3	28.6	14.0	8.1	6.5	6.1	6.1
Primary Site									
Extrahepatic bile duct	2,270	86.0	9.4	43.7	25.4	17.5	12.8	9.8	9.7
Overlapping lesion	42	1.6	8.3	45.3	30.6	22.8	17.2	14.1	7.6
Biliary tract, NOS	328	12.4	3.1	18.5	7.7	4.6	2.7	1.3	1.3
Tumor Size									
<=2 cm	373	14.1	20.1	67.6	48.6	37.3	29.9	26.2	25.1
2.1-5 cm	356	13.5	11.1	47.4	25.6	17.1	13.6	8.9	7.9
5.1-10 cm	58	2.2	8.5	41.0	11.4	11.4	11.4	4.5	4.5
>10 cm	9	0.3	~	~	~	~	~	~	~
Unknown	1,844	69.8	6.4	33.7	18.0	11.5	7.5	5.2	5.1

! Not enough intervals to produce rate.
 - Not calculated.
 ~ Statistic not displayed due to less than 25 cases.

Table 6.7: Other Biliary Cancer (excluding Ampulla): Distribution and Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates (%) by Histology, Ages 20+, 12 SEER Areas, 1988-2001

Histology/ICD-O Code	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases excluding carcinoids	2,640	100.0	8.4	40.6	23.3	16.0	11.7	8.9	8.6
Carcinoma excluding carcinoids: 8010-8572	2,596	98.3	8.4	40.6	23.2	16.0	11.6	8.7	8.4
Squamous-cell carcinoma 8050-8076	23	0.9	~	~	~	~	~	~	~
Adenocarcinoma 8140-8141,8191-8231, 8260-8263,8310,8430, 8480-8490,8560, 8570-8572	2,039	77.2	8.5	41.0	23.4	16.7	11.8	9.0	8.6
Other specified carcinomas	401	15.2	9.2	42.5	24.7	14.0	11.6	7.4	7.4
Unspecified carcinoma 8010-8034	133	5.0	4.9	30.4	14.3	6.7	4.0	4.0	4.0
Unspecified Cancer: 8000-8004	44	1.7	6.3	38.3	32.0	18.8	18.8	18.8	!
Carcinoids: 8340-8246	16	-	~	~	~	~	~	~	~

! Not enough intervals to produce rate.
 - Not calculated.
 ~ Statistic not displayed due to less than 25 cases.

Table 6.8: Cancer of the Ampulla of Vater (excluding Carcinoids): Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, Primary Site, and Tumor Size, Ages 20+, 12 SEER Areas, 1988-2001

Characteristics	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases	1,832	100.0	20.3	67.3	50.0	39.9	32.0	30.0	28.4
Sex									
Male	1,002	54.7	20.8	67.1	50.6	41.7	33.6	32.2	29.6
Female	830	45.3	19.7	67.5	49.2	37.7	29.9	27.1	26.8
Race									
White	1,458	79.6	20.6	67.1	51.0	40.6	32.3	30.6	29.1
Black	107	5.8	14.3	58.7	37.7	32.3	29.7	25.7	25.5
Other	267	14.6	22.4	-	-	-	-	-	-
Age									
20-49	171	9.3	34.6	81.2	61.5	49.4	41.0	36.4	31.5
50-64	445	24.3	34.5	79.5	60.2	50.7	36.1	31.2	28.2
65+	1,216	66.4	15.3	60.5	44.0	33.7	28.4	27.4	27.0
Historic Stage									
Localized	396	21.6	34.3	76.2	64.7	57.1	51.7	49.7	47.7
Regional	1,068	58.3	24.9	74.5	55.2	43.0	32.7	30.5	28.3
Distant	165	9.0	5.5	26.4	5.5	0.8	!	!	!
Unstaged	203	11.1	8.6	44.2	27.1	17.7	8.6	4.0	!
Grade									
Well	289	15.8	43.2	78.4	67.1	60.1	52.2	42.8	38.4
Moderate	748	40.8	24.1	72.6	54.5	42.3	35.5	34.9	32.1
Poor	425	23.2	16.8	63.1	42.5	31.0	19.9	19.6	19.3
Undifferentiated	24	1.3	~	~	~	~	~	~	~
Unknown	346	18.9	12.2	53.4	36.2	29.7	22.6	20.7	20.7
Tumor Size									
<=2 cm	570	31.1	35.9	82.4	65.5	54.8	43.2	41.2	38.8
2.1-5 cm	477	26.0	24.0	71.2	53.3	41.1	34.0	31.2	29.5
5.1-10 cm	47	2.6	19.5	70.0	45.2	31.3	24.0	14.6	!
>10 cm	<5	-	~	~	~	~	~	~	~
Unknown	735	40.1	11.9	52.7	35.5	27.2	20.9	18.4	17.9

! Not enough intervals to produce rate.
 - Not calculated.
 ~ Statistic not displayed due to less than 25 cases.

Table 6.9: Cancer of the Ampulla of Vater: Distribution and Median Survival Time and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates (%) by Histology, Ages 20+, 12 SEER Areas, 1988-2001

Histology/ ICD-O Code	Cases	Percent	Median Survival (Months)	Relative Survival Rates (%)					
				1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
All Cases excluding carcinoids	1,832	100.0	20.3	67.3	50.0	39.9	32.0	30.0	28.4
Carcinoma excluding carcinoids: 8010-8231,8247-8572	1,823	99.5	20.4	67.4	50.0	39.9	32.0	30.1	28.7
Squamous-cell carcinoma 8050-8076	9	0.5	~	~	~	~	~	~	~
Adenocarcinoma 8140-8141,8191-8231, 8260-8263,8310,8430, 8480-8490,8560, 8570-8572	1,686	92.0	21.3	68.3	51.1	40.7	33.0	31.2	29.6
Other specified carcinomas	49	2.7	19.1	70.0	41.5	33.0	12.0	!	!
Unspecified carcinoma: 8010-8034	79	4.3	10.5	46.6	31.9	27.5	17.0	16.1	16.1
Unspecified Cancer: 8000-8004	9	0.5	~	~	~	~	~	~	~
Carcinoids: 8240-8246	35	-	98.2	76.0	71.3	65.3	59.0	59.0	59.0

! Not enough intervals to produce rate.
 - Not calculated.
 ~ Statistic not displayed due to less than 25 cases.

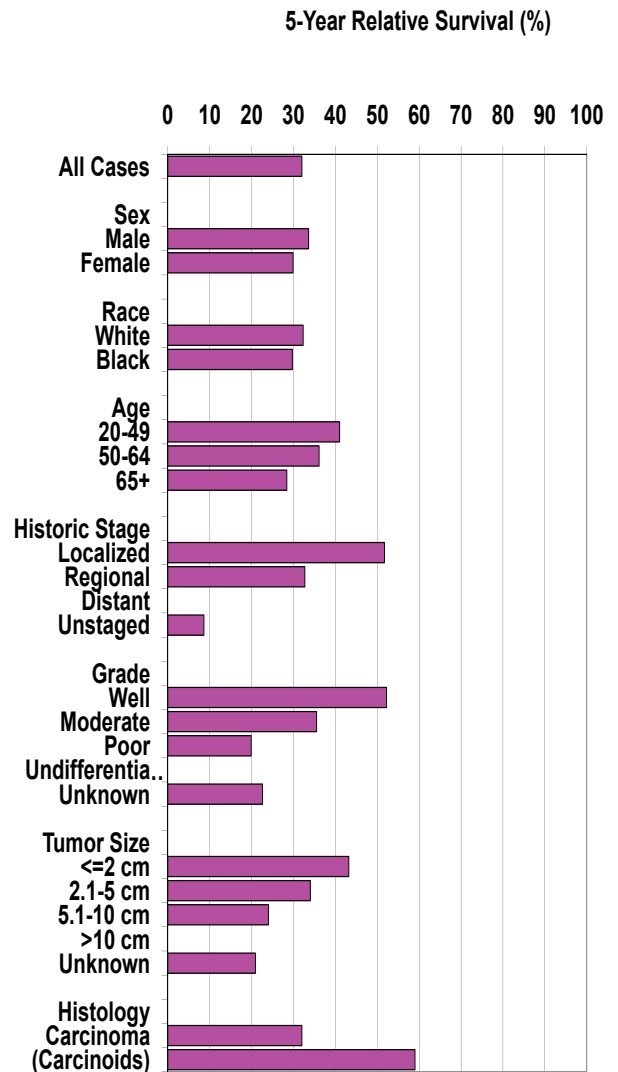


Figure 6.5 (at right): Cancer of the Ampulla of Vater: 5-Year Relative Survival Rates by Sex, Race, Age, Historic Stage, Grade, Tumor Size, and Histology, Ages 20+, 12 SEER Areas, 1988-2001