

Survival impact of re-resection for gallbladder cancer: a nationwide review



EXCEPTIONAL CARE. WITHOUT EXCEPTION.



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Background

Gallbladder cancer has a high mortality rate and an increasing incidence. Current NCCN guidelines recommend resection for all T1b and greater stage cancers. This study aims to evaluate re-resection rates and the associated survival impact in patients with gallbladder cancer.

Methods

Patients with gallbladder cancer who underwent resection were identified from the National Cancer Database (2004-2015). To control for immortal time bias, patients who died within 90 days of their first or only surgery were excluded. Re-resection was defined as definitive surgery within 180 days of the first operation. Propensity scores were created for the odds of having re-resection. Patients were matched 1:1. Survival analyses were performed using the Kaplan-Meier method.

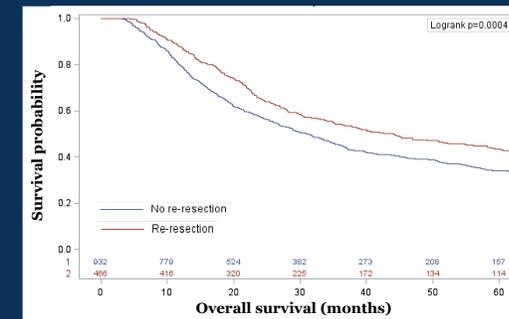
Results

Table 1. Baseline characteristics

	Re-resection (n=466)	No re-resection (n=5709)	P value
Median age (IQR)	65 [58-72]	72 [63-79]	<0.0001
Female sex, n (%)	341 (73.2%)	3993 (69.9%)	0.1423
Race, n (%)			
White	343 (73.6%)	3982 (69.8%)	0.0599
Black	48 (10.3%)	788 (13.8%)	
Asian	26 (5.6%)	245 (4.3%)	
Other	49 (10.5%)	694 (12.2%)	
Charlson-Deyo Score, n (%)			0.0926
0	328 (70.4%)	3711 (65.0%)	
1	101 (21.7%)	1421 (24.9%)	
2	23 (4.9%)	400 (7.0%)	
≥3	14 (3.0%)	177 (3.1%)	
Insurance, n (%)			<0.0001
Private Insurance	194 (41.6%)	1546 (27.1%)	
Medicare	213 (45.7%)	3576 (62.6%)	
Medicaid, No insurance	59 (12.7%)	587 (10.3%)	
Hospital Type, n (%)			<0.0001
Community	153 (32.8%)	3120 (54.7%)	
Academic	235 (50.4%)	1696 (29.7%)	
Integral cancer network	78 (16.7%)	893 (15.6%)	
pT stage			0.013 9
T1b	32 (6.9%)	462 (8.1%)	
T2	222 (47.6%)	2444 (42.8%)	
T3	132 (28.3%)	1486 (26.0%)	
TX	80 (17.2%)	1317 (23.1%)	
pN stage			<0.0001
N0	225 (48.3%)	2053 (36.0%)	
N1-2	131 (28.1%)	1179 (20.7%)	
Nx	110 (23.6%)	2477 (43.4%)	
Negative Margin Status	420 (90.1%)	4144 (72.6%)	<0.0001
Chemotherapy	250 (53.7%)	2042 (35.8%)	<0.0001

Results

In total, 6,175 patients were identified; 466 patients (7.6%) underwent re-resection after median interval of 42 days (IQR, 28 – 59 days).



Median overall survival:
44 vs. 31 months

Figure 1. Kaplan-Meier survival curve after matching

Conclusions

Re-resection for gallbladder cancer is associated with improved survival, but remains underutilized, particularly for early stage disease.