

# Gallbladder bed resection or hepatectomy of segments 4a and 5 for pT2 gallbladder carcinoma: Analysis of Japanese registration cases by the study group for biliary surgery of the Japanese Society of Hepato-Biliary-Pancreatic Surgery

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# BACKGROUND

		Survival rate (%)		
		1 year	3 year	5 year
T1	167	98.8	91.2	85.9
T2	415	82.7	63.7	56.1
T3	124	60.2	27.6	19.2
T4	341	49.4	19.0	14.1

Registered cases of GB cancer in Japan (1998~2004)

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# BACKGROUND

For T2 GB cancer

**GB bed resection :**

For ensuring an adequate margin on the liver side

**S4a+5 hepatectomy :**

For removal of microscopic foci of tumor in the area perfused with gallbladder veins

# PURPOSE

## S4a+5 vs. GB bed resection for T2 GB cancer

Hepatectomy of segments 4a and 5 (S4a+5) is the recommended treatment for pT2 gallbladder cancer.

However, gallbladder bed resection is also occasionally used.

Using nationwide data from the Japanese Biliary Tract Cancer Registry and a questionnaire survey, we retrospectively compared these 2 methods of treatment.

# PATIENTS

Registered cases of GB cancer in Japan (1998~2004)

Surgical resection : 1094 cases  
pT2 GBC : 415 cases  
2 procedures : 161 cases

GB bed resection	S4a+5
55	30

# METHODS

The prognosis and mode of tumor recurrence following treatment were analyzed retrospectively, with overall survival as the endpoint.

# Clinicopathological characteristics ①

		GB bed resection (n=55)	S4a+5 (n=30)	p value
Age (y.o.)		67.6±9.8	69.5±10.1	0.589
Sex	Men	23	17	0.190
	Women	32	13	
Main tumor location	Gf	21	15	0.120
	Gb	15	10	
	Gn	13	1	
	Gf,Gb and Gn	6	4	
Lymphnode dissection	D0	2	1	0.148
	D1	12	1	
	D2	39	26	
	D3	2	2	
Cross-sectional circumference of the gallbladder wall	Hepatic side	13	14	0.138
	Peritoneal side	18	7	
	Global circumference	15	4	
	Not clear	9	5	
Bile duct resection	without	34	14	0.178
	with	21	16	
Operating Time (min)		344±164	386±165	0.495
Bleeding volume (ml)		937±635	1156±669	0.568
Radical resection	Yes	55	29	0.173
	No	0	1	
mortality		1	0	0.458
Postoperative complication	Yes	12	13	<u>0.037</u>
	No	43	17	

# Clinicopathological characteristics ②

		GB bed resection (n=55)	S4a+5 (n=30)	p value
<b>histological type</b>	pap	21	14	0.339
	tub	27	15	
	other	7	1	
<b>INF</b>	$\alpha$	8	8	0.427
	$\beta$	33	17	
	$\gamma$	3	2	
	Not clear	11	3	
<b>ly</b>	Yes	21	11	0.112
	No	24	18	
	Not clear	10	1	
<b>v</b>	Yes	16	12	0.347
	No	30	16	
	Not clear	9	2	
<b>pn</b>	Yes	5	6	0.165
	No	40	22	
	Not clear	10	2	
<b>Postoperative adjuvant chemotherapy</b>	Yes	13	4	0.355
	No	38	25	
	Not clear	4	1	

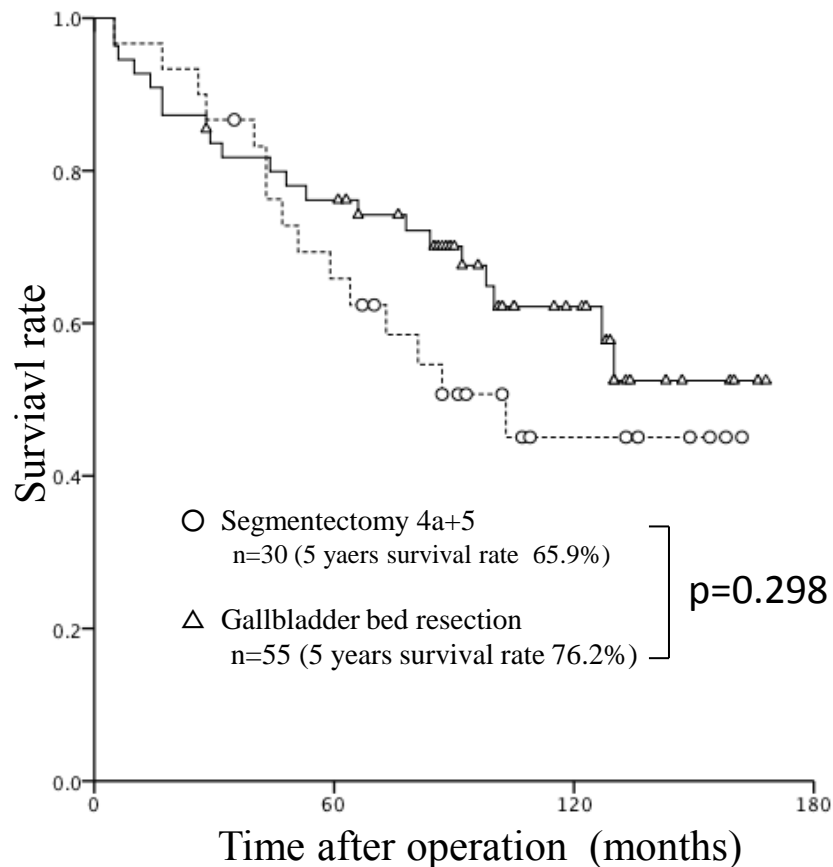
# Postoperative morbidity and mortality

	Resection of the gallbladder bed (n=55)	Segmentectomy S4a+5 (n=30)	p value
Complication	12	13	0.037
Intraabdominal hemorrhage	2	1	0.942
Respiratory disfunction	3	2	0.820
Postoperative pancreatitis	0	1	0.173
Wound infection	1	3	0.088
Biliary fistula	6	4	0.740
Cholangitis	0	2	0.053
Ileus	1	0	0.458
Mortality	1	0	0.458

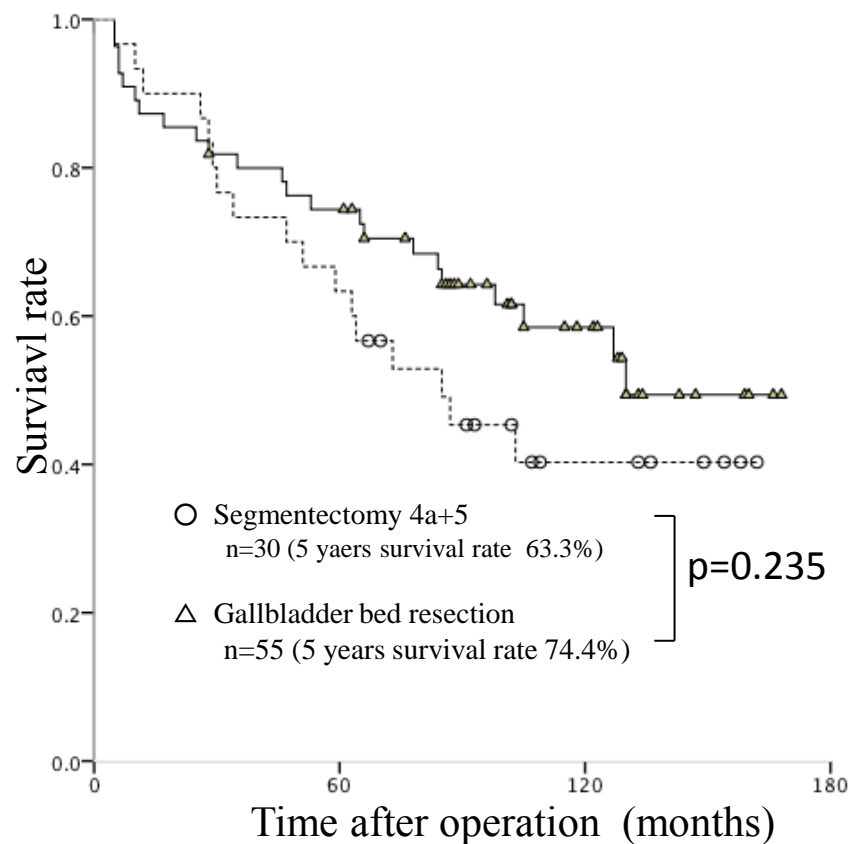
# Liver metastasis in the specimen

	GB bed resection(n=55)	S4a+5 (n=30)	p value
Yes	0	1	0.309
No	51	28	
Not clear	4	1	

# Overall Survival



# Disease-Free Survival



# Prognostic factors for survival ①

		n	5YSR(%)	p value (Univariate)	p value (Multivarriate)
Operation	GB bed resection	55	76.2%	0.298	
	S4a+5	30	65.9%		
Bile duct resection	without	48	61.6%	<u>0.038</u>	0.417
	with	37	86.5%		
Lymphnode dissection	D0	3	86.5%	0.152	
	D1	13	66.7%		
	D2	65	53.8%		
	D3	4	75.2%		
Radical resection	Yes	84	72.3%	0.403	
	No	1	100%		
Cross-sectional circumference of the gallbladder wall	Gf	36	63.2%	0.820	
	Gb	25	84.0%		
	Gn	14	85.7%		
	Gf,Gb and Gn	10	66.0%		
Cross-sectional circumference of the gallbladder wall	Hepatic side	27	62.2%	0.093	
	Peritoneal side	25	72.0%		
	Global circumference	19	94.7%		

# Prognostic factors for survival ②

		n	5YSR(%)	p value (Univariate)	p value (Multivarriate)
histlogical type	pap	35	74.3%	0.143	
	tub	42	68.3%		
	other	8	87.5%		
INF	$\alpha$	16	75.0%	0.861	
	$\beta$	50	69.4%		
	$\gamma$	5	80.0%		
ly	Yes	32	58.7%	0.073	
	No	42	83.1%		
v	Yes	28	59.9%	0.072	
	No	46	78.0%		
pn	Yes	11	36.4%	<u>0.001</u>	<u>0.003</u>
	No	62	77.0%		
Postoperative adjuvant chemotherapy	without	17			
	with	63			

# The site of recurrence

	GB bed resection (n=55)	S4a+5 (n=30)	p value
Liver metastasis	10	3	0.395
Segment 4a,5	3	-	
Right lobe (except of Segment 5)	1	2	
both lobe	5	1	
Not clear	1	0	
Lymph node metastasis	5	2	0.698
Lung metastasis	2	2	0.528
Bone metastasis	2	1	0.942
Peritoneal metastasis	3	2	0.820

# Conclusion

In the present study of cases of Japanese Biliary Tract Cancer Registry, it was not possible to conclude that S4a+5 hepatectomy was superior to gallbladder bed resection for T2 gallbladder cancer.