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## Unsuspected Gallbladder Cancer: Radical Second Operation vs Cholecystectomy Alone

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**Purpose:** This study was designed to evaluate effectiveness of additional operation for gallbladder cancers (GBC) diagnosed after simple cholecystectomy.

**Methods:** Retrospective pathological review of 250 GBC (Mar. 1986 - Nov. 2000) revealed that in 38 cases the malignancy had been proven by later pathologic study after the patients had initially undergone simple cholecystectomy. Twelve patients had a subsequent reoperation and the other 26 were observed. Types of reoperation were liver wedge resection (n=4), wedge resection with CBD resection (n=2), extended right lobectomy (n=2), wedge resection with Whipple's operation (n=1), hepatopancreaticoduodenectomy (n=1), bile duct resection (n=1) and open biopsy (n=1). We analyzed the clinical outcomes of these patients.

**Results:** (1) Patients with pT1 (n=19) survived without additional operation. (2) Five patients with pT2 lesion without reoperation and 5 patients with reoperation (LN (-): 4, LN(+): 1) were still alive without evidence of recurrence at an average of 35 months follow up (duration: 3 - 84 months). The remaining 3 patients with reoperation (LN(+)) died at postoperative 7, 11 and 20 months. (3) One patient with pT3 cancer without LN metastasis was alive at 80 months after reoperation. (4) Among 4 patients with pT3 lesion, 3 died while the other without reoperation (unknown LN status) was alive without recurrence at 80 months after reoperation.

**Conclusion:** It was suggested that pT1 cancer can be

treated with cholecystectomy alone. Additional operation should be applied to pT2 or more advanced cancers, and to cases of positive resection margin. Thorough gross examination of gallbladder specimens during cholecystectomy is essential to avoid missing hidden GBC. (*J Korean Surg Soc* 2002;63:146-154)

**Key Words:** Unsuspected gallbladder cancer, Additional operation, 가

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5 5% 가  
(1,2)  
가  
(unsuspected 가  
gallbladder cancer)  
가  
(3-5)

1986 3 2000 11  
 250  
 38  
 . 38  
 가 (n=26)  
 가 (n=12)  
 AJCC  
 (T stage),  
 가  
 1)  
 20, 18  
 60 69 가 18  
 (47.4%) 가 40 2 (5.3%), 40  
 49 가 5 (13.6%), 50 59 가 5  
 (13.6%), 70 79 가 6 (15.8%) 80  
 2 (5.3%) 34, 87  
 61.2  
 2)  
 가  
 22 (57.9%) 가  
 가 8 (21.5%)  
 3)  
 15 (39.5%) 가 9  
 (23.7%), 7 (18.4%), 3  
 (7.9%), 1 (2.6%)  
 1 (2.6%)

Table 1. Initial diagnosis prior to simple cholecystectomy

Preoperative diagnosis	Number (%)
GB polyp	15 (39.5)
Acute cholecystitis	9 (23.7)
GB stone	7 (18.4)
GB stone with polyp	3 (7.9)
Acalculous cholecystitis	1 (2.6)
GB polyp with cholecystitis	1 (2.6)
Others	2 (5.3)
Total	38 (100)

가  
 가 (Table 1).  
 4)  
 12 가  
 4  
 2, 2,  
 1, 1,  
 ( + ) 1 가 1  
 5)  
 33 (91.7%) 가  
 (papillary adenocarcinoma) 2,  
 (mucinous adenocarcinoma) 1

1) (Table 2)  
 가 14  
 2 ( : 18.5 )  
 7  
 5 7 1  
 가 (T2)  
 가  
 가

Table 2. Clinical outcome of additional operation group

T stage	RM*	Op. interval	Type of reoperation	LN	Present status	Follow-up (month)
T1b	+	32 days	LWR <sup>†</sup> +CBD resection+RLND <sup>‡</sup>	N0	NED	6
T2	-	25 days	Extended right lobectomy+RLND	N0	NED	22
	+	20 days	Extended right lobectomy+RLND	N1	Expired	11
	-	23 days	LWR+RLND	N0	NED	2
	-	30 days	LWR+RLND	N0	NED	6
	-	17 days	LWR+RLND	N0	NED	21
	-	17 days	LWR+RLND	N1	NED	52
	-	14 days	LWR+CBD resection+RLND	N1	Expired	7
	+	33 days	Open biopsy	N2	Unimproved	1
	T3	+	27 days	LWR+Whipple's op	N1	Expired
+		36 days	Bile duct resection+RLND	N0	NED	80
Tx	?	62 days	Hepatopancreaticoduodenectomy	N1	Expired	13

Interval between 1st and 2nd operation = 14 - 62 days (Median: 26 days).

\*RM = Resection margin; <sup>†</sup>LWR = liver wedge resection; <sup>‡</sup>RLND = Regional lymph node dissection.

(n=1) ,  
 33  
 가  
 가  
 가  
 T2  
 4 3  
 가  
 2, 6, 21  
 가  
 가  
 2 52  
 2 1  
 T1b 1 , T2 8 , T3 2 가 T2 , (5/15: peri-  
 ductal LN 3/3, hepatic LN 1/1, unlabeled LN 1/1)가  
 1  
 (mucinous carcinoma)  
 T1b 1 11 1  
 1.8 cm  
 T2  
 가  
 8, 12, 13  
 5-FU 8 가  
 T2 8 가  
 (n=4), 22  
 (n=2)( ),

가  
 invasion) T2 1 (perineural invasion) 13  
 (1/6)가 2) (Table 3)  
 T3N1M0 AJCC III 26 T1a 13, T1b 6, T2  
 7 T3 2 1 5, T3 2 T1a T1b T2, T3  
 가 가 가 가 가  
 5-FU T1a 13 T1b 6 가  
 80 T1a 3, T1b 1 15  
 1 T1a T1b 53, 55  
 10×0.5 cm 가 2, T2 5  
 가 3 가  
 가 (fundus) 1 가  
 가 20 3 가 1  
 1 T2  
 (low attenuation) 가 가  
 2 가 가  
 가 18, 19, 53, 73, 84 ( 53 )

**Table 3.** Clinical outcome of observation group according to T-stage

T stage	No. of patient (%)	Mean follow-up (months)	Present status
1a	13 (50.0)	53	NED
1b	6 (23.1)	55	NED
2	5 (19.2)	53	NED
3	2 (7.7)	25	Recur (1) Follow-up loss (1)
Total (%)	26 (100)		

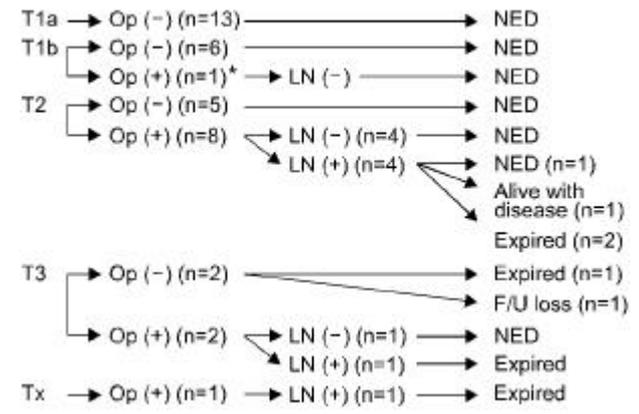
\*NED = No evidence of disease.

**Table 4.** Positive cancer cell in pathologic specimen by additional resection

Type of operation	Initial T stage	RM	Tumor site	LN	Present status
Bile duct resection	T3	+	Hepatoduodenal ligament	N0	NED*
LWR <sup>†</sup> +CBD resection	T2	-	Common bile duct	N1	Expired
LWR+PD <sup>‡</sup>	T3	+	Remnant cystic duct	N1	Expired

\*NED = No evidence of disease; <sup>†</sup>LWR = Liver wedge resection; <sup>‡</sup>PD = pancreaticoduodenaectomy.

T3 2 1 83  
 가  
 3  
 5  
 1  
 가  
 가  
 가



**Fig. 1.** Clinical course of patients classified by T- stage, operation, lymph node status. \*: Cystic duct resection margin (+).

3) 가  
 (Table 4)  
 가  
 가 (1) 3 T3  
 (hepato-  
 duodenal ligament)  
 80  
 (low attenuation)  
 (2) T2 가  
 (3) T3 7 가  
 가  
 가 20

T  
 Fig. 1  
 1985 Muhe가  
 가 가  
 가

(8-10)

Kimura (11) 가 0.18 0.81% (6, 12) 가 3 cm (porcelain GB), 10 (2) 가 CA 19-9 (12) Wanebo Craig (13) Shirai (4) R0 dissection Nakamura (17) R0 dissection T 가 13 T3 20 Shirai 가 80 5-FU T3 Suzuki (14) 가 80 T3NO Fahim(18) T 가 pT1 가 19 T1 Benoist (19) II 가 가 T pT2



	1986	3	2000	11	15
	12		26		
1)				T1	
		가			
2)			T2		
	가				
가				가	
					T
	가		T2		
				T1	
T2			가		
가					가
		T			

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