



CT
가 ,
CT
CT
113 CT
(3-4mm),
(5-8mm) (9mm) (6-8mm),
(9-12mm) (13mm)
(bilirubin) (alkaline phosphatase)
: 113 78 (69%) 41
24 (58.4%), 72 54 (75%)
(p>0.05)
41 15 (36.6%) 72 26 (36.1%)
7 (17%), 25 (34.7%) 2 (48%), 3 (42%)
113 76 (67%)
72 54 (75%), 41 22 (53.6%)
0.71IU/L,
0.83IU/L , 0.16IU/L, 0.17IU/L,
0.54IU/L, 0.64IU/L , 73IU/L, 91IU/L

가 (CT)
(1).
가
가 ,
(Gastroduodenostomy, Billroth I)
(Gastrojejunostomy, Billroth II)

Table 1. Number of Bile Duct Dilatation

| | Central Intrahepatic Bile duct | | | Extra Hepatic Bile Duct | | |
|------------------|--------------------------------|-----------|---------|-------------------------|----------|--------|
| | Mild | Moderate | Severe | Mild | Moderate | Severe |
| Biloth I(n= 41) | 15(36.6%) | 7(17.0%) | 2(4.8%) | 16(39%) | 6(14.6%) | 0(0%) |
| Biloth II(n= 72) | 26(36.1%) | 25(34.7%) | 3(4.2%) | 30(42%) | 21(29%) | 3(4%) |

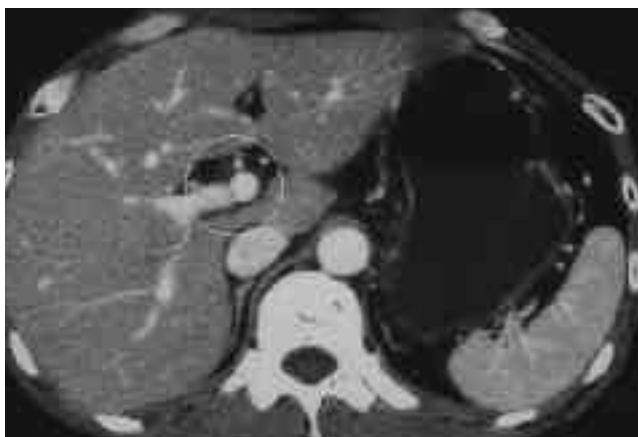


Fig. 1. Measurement of central intrahepatic bile duct
A central duct was classified as being that within 2 cm axial radius of the bifurcation of portal vein(circle).



Fig. 2. Abdominal CT scan obtained at the 8 months follow up examination in 37-year-old female after gastroduodenostomy. Arrow in central duct of intrahepatic duct point out moderate dilatation of bile duct.



Fig. 3. Eleven months follow up abdominal CT in 46-year-old male after gastro- jejunostomy. CT scan demonstrate dilatation of peripheral portion of intrahepatic bile duct.(arrow head) and mild dilatation of central portion of intrahepatic duct(arrow).

95 1 97 12 72 .
(Total gastrectomy)
CT
CT 가
113 .
26-80 (54.7) , 40
73 . CT 1-60 (13.4)
CT
CT
CT scanner HITACHI W-2000(Hitachi Medical Corp. Tokyo, Japan) 10mm
Iopamiro (Bracco, Italy) 150ml 가 30ml ()
1000ml 30 .
2cm 2cm
(Fig.1), 0-2mm (2)

(3-4mm), (5-8mm), (9mm) . (Fig. 2).
0-2mm 3mm CT
가 . 0-5mm
(6-8mm), (9-12mm),
(13mm) , 2 가

CT
가
(1)
12% 64.6%
113 78 (69%)
76 (67%)
13.4 (12).
41 24
(58.4%) 72 54 (75%) 6
(12,13)
($p>0.05$), 41 22
(52.6%), 72 54 (75%) 가 가 가
(Table 1). 가 가
3 (Fig. 3). 가
0.71
IU/L, 0.83IU/L, 0.16IU/L, 0.17 IU/L,
0.54IU/L, 0.64IU/L
73IU/L, 91IU/L CT
($p<0.05$)
CT
(3).
(cholecystokinine)

- (4). Akiyama 가 (5)
(6) 가 가 (7,8).
, 234
Feng (9)
(10,11)
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Bile Duct Dilatation after Subtotal Gastrectomy in Stomach Cancer : Comparison with Gastroduodenostomy (Billoth I) and Gastro Jejunostomy (Billoth II)

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Purpose : To evaluate the incidence and degree of bile duct dilatation after partial gastrectomy due to gastric cancer and to determine any differences between gastroduodenostomy (Billoth I) and gastrojejunostomy (Billoth II).

Materials and Methods : We retrospectively analyzed the follow up abdominal CT findings in 113 patients who had undergone partial gastrectomy without truncal vagotomy or cholecystectomy. In all cases, preoperative abdominal CT findings showed no evidence of bile duct dilatation. Among 113 patients, 41 underwent Billoth I surgery, and 72 underwent Billoth II. No case showed clinical or radiological evidence of obstructive causes of bile duct dilatation. Among these patients, we decided the criteria for dilatation when this was noted. The grade was either mild (3-4 mm), moderate (5-8 mm), or severe (over 9 mm), as measured at the central intrahepatic duct. Extra-hepatic duct dilatation was graded as mild (6-8 mm), moderate (9-12 mm) or severe (over 13 mm). We analyzed serum bilirubin and alkaline phosphatase levels.

Results : When the central intrahepatic duct was measured, 78 of 113 patients(69 %) showed bile duct dilatation; 24 of 41 cases(58.5 %) were in the billoth I group and 54 of 72 (75 %) were the in Billoth II group. After measurement of the extra hepatic duct, 22 of 41cases(53.6 %) in the Billoth I group and 54 of 72 (75 %) in the Billoth II group were found to be dilated. The results showed a slightly increased incidence of bile duct dilatation in the Billoth, II group but this was not statistically significant ($p > 0.05$). In the laboratory, total, direct, and indirect bilirubin, as well as alkaline phosphatase levels, were measured. Higher levels were found in Billoth II than in Billoth I but all findings were within normal limits.

Conclusion : Mild dilatation of the bile duct after partial gastrectomy was a not uncommon finding, and there was no significant difference of incidence or degree of dilatation according to the procedure performed. If a patient has no clinical symptoms, it appears that clinical it appears that clinical evaluation does not require further study.

Index words : Bile ducts, dilatation
Bile ducts, CT
Stomach, surgery

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