

Hong MJ, Kim SW, Kim HC, Yang DM.
 Comparison of
 the clinical characteristics and imaging findings of
 acute cholangitis with and without
 biliary dilatation.
 Br J Radiol. 2012;85(1020):e1219-25.

研究目的

- causes of acute cholangitis w/o biliary dilatation
- Acute cholangitis ± biliary dilatation
 - clinical characteristics & imaging findings

方法 (inclusion/exclusion)

- 2009-01~2009-12: 6317_{pt}/9364_{contrast-CT}
- 100pt selected by 2 radiologists_{2人看片 1人看病歷}
- 1/2/3-phase (43/42/8)
- exclude 7 pt (CT > 3days after admission)
- acute cholangitis (93) → CT w/ contrast
 - group 1: biliary dilatation [-] (17)
 - group 2: biliary dilatation [+] (76)

Table 1. Diagnostic criteria for acute cholangitis (Tokyo Guidelines [1])

A. Clinical context and clinical manifestations	1. History of biliary disease
	2. Fever and/or chills
	3. Jaundice I
	4. Abdominal pain (right upper quadrant or upper abdominal)
B. Laboratory data	5. Evidence of inflammatory response ^a
	6. Abnormal liver function tests ^b
C. Imaging findings	7. Biliary dilatation, or evidence of an aetiology
<i>Definite diagnosis</i>	(1) Charcot's triad (2+3+4)
	(2) Two or more items in A+both items in B+item C

^aAbnormal white blood cell count, increase in serum C-reactive protein level and other changes indicating inflammation.

^bIncreased serum alkaline phosphatase, γ -glutamyltransferase, aspartate aminotransferase or alanine aminotransferase levels.

統計方法

- Fisher's exact test
- χ^2 test
- t-test
- p -values 0.05 → statistically significant
- SPSS for Windows (v. 18.0; SPSS Inc., Chicago, IL)

結果

Table 3. Summary of causes of acute cholangitis in Group 1 and Group 2

Cause	Group 1 (n=17)	Group 2 (n=76)
CBD stones	8	39
CBD sludge	2	0
Passed stones	1	1
Acute pancreatitis due to CBD stones	3	1
Acute pancreatitis due to CBD sludge	1	0
Unknown	2	3
Bile duct stricture	0	3
Biliary or peribiliary malignancy	0	22
Bile duct dilatation due to other malignancy	0	5
Biliary stent malfunction in patients with cholangiocarcinoma	0	2

Table 4. Results of clinical and imaging comparison between Group 1 and Group 2

Findings	Group 1 (n=17)	Group 2 (n=76)	p-value
Laboratory			
Bilirubin level (mg dl ⁻¹)	4.58 ± 2.46	8.53 ± 8.27	0.001
ALP level (IU l ⁻¹)	316.47 ± 474.94	322.77 ± 258.88	0.939
GGT level (IU l ⁻¹)	569.06 ± 315.44	570.42 ± 646.05	0.994
AST level (IU l ⁻¹)	245.35 ± 184.03	175.68 ± 155.78	0.110
ALT level (IU l ⁻¹)	256.71 ± 179.90	170.19 ± 145.07	0.036
WBC count (cells μl ⁻¹)	11596.35 ± 3052.99	14245.45 ± 9762.96	0.052
CRP concentration (mg l ⁻¹)	101.91 ± 81.92	106.48 ± 151.70	0.912
Non-laboratory			
Age (years)			
Age (years)	67.12 ± 12.92	69.38 ± 10.38	0.439
Sex (M:F)	11:6	48:28	0.905
Abdominal pain	16	63	0.449
Fever	9	43	0.785
Jaundice	16	67	>0.100
Invasive treatment	14	67	0.455
Plus on ERCP	2 (14)	3 (60)	0.237
Admission days	8.12 ± 2.31	16.99 ± 13.75	<0.001
CT findings			
Presence of THAD	9 (9)	36 (41)	0.570
Extent of THAD	4.49 ± 2.59	7.69 ± 1.06	0.003
Lymphadenopathy	6	33	0.512
Periportal tracking	6	19	0.757
Periapillary diverticulum	7	18	0.125
Wall thickening of common bile duct	3 (17)	14 (60)	0.749
Bile duct diameter (mm)	7.71 ± 1.10 (17)	16.05 ± 4.91 (63)	<0.001
Longest transverse diameter of gallbladder (mm)	35.44 ± 13.95 (16)	38.74 ± 11.80 (58)	0.344
Stone size (mm)	5.58 ± 1.11 (6)	12.63 ± 4.52 (22)	<0.001

結果 (續 2)

- T-bil.: group 1 < group 2 (p = 0.001)
- Median ALT: group 1 > group 2 (p = 0.04)
- Hospital stay: group 1 < group 2 (p = 0.001)
- THADs: group 1 < group 2 (p = 0.003)

transient hepatic attenuation differences

Conclusion & Discussion

- CBD stones & sludge
 - the most common causes of acute cholangitis w/o biliary dilatation
- acute cholangitis w/o biliary dilatation
 - T-bil. 較低
 - ALT 較高
 - 住院期間較短
- extent of THADs_{transient hepatic attenuation differences}
 - the only discriminative CT finding
- acute cholangitis can present w/o biliary dilatation on imaging

研究限制

- biliary obstruction diagnosed w/o surgery/biopsy
- only included pt's who underwent enhanced CT
- Exclude pt's diagnosed by Ultrasonography or MRCP

Table 2. Assessment of the diameter of the extrahepatic bile duct

Extrahepatic bile duct	<50 years	51-60 years	61-70 years	>70 years	Any age with cholecystectomy
Normal (mm)	0-5.9	0-6.9	0-7.9	0-8.9	0-7.9
Borderline (mm)	6.0-7.9	7.0-8.9	8.0-9.9	9.0-10.9	8.0-9.9
Dilatation (mm)	≥8.0	≥9.0	≥10.0	≥11.0	≥10.0