

Aggressive Surgery, Is It Reasonable?

Toshifumi Wakai

Division of Digestive and General Surgery, Niigata University Graduate School of Medical and Dental Sciences



Education

- 1985-1992 M.D. (Doctor of Medicine),
Yamanashi University, School of Medicine,
Yamanashi, Japan
- 1994-1999 Ph.D. (Doctor of Philosophy) in Surgical
Oncology Niigata University,
Graduate School of Medicine,
Niigata, Japan



Experience

- 2003-2010 Assistant Professor Division of
Digestive and General Surgery,
Niigata University Medical and
Dental Hospital
- 2010-2012 Associate Professor, Division of
Digestive and General Surgery
Niigata University Medical and
Dental Hospital
- 2012-present Professor and Chairman Division
of Digestive and General Surgery,
Niigata University Graduate School
of Medical and Dental Sciences

Background: No consensus regarding the performance of radical resection for gallbladder carcinoma invading the muscle layer (pT1b) has been established. This study aimed to address whether pT1b gallbladder carcinoma is a local disease and whether radical resection is necessary.

Methods: A retrospective analysis of 43 patients with pT1b gallbladder tumors, 25 of whom underwent simple cholecystectomy and 18 underwent radical resection with regional lymph node dissection, was conducted. A total of 168 regional lymph nodes were examined for metastasis. The median follow-up time was 127 months.

Results: Gallbladder carcinoma was diagnosed before operation in 16 of the 43 (37%) patients and preoperative diagnosis of the depth of invasion was not possible. No patient had blood vessel or perineural invasion on histology. Lymphatic vessel invasion was seen in one patient. Metastases were absent in all lymph nodes examined. Overall 5- and 10-year survival rates were 84% and 69%, respectively. The outcome after simple cholecystectomy (overall 5-year survival rate of 88%) was comparable to that after radical resection (that of 82%) ($P=0.956$). Two patients who underwent radical resection died from tumor relapse in distant sites (liver and lung).

Conclusions: Most pT1b gallbladder carcinomas spread only locally. Preoperative diagnosis of pT1b gallbladder carcinoma is rarely obtained and most pT1b tumors are first diagnosed by histopathologic examination of a resected specimen. The performance of radical resection is justified, whereas additional radical resection is not necessary when the depth of invasion of gallbladder carcinoma is limited to the muscle layer after simple cholecystectomy.

Morphological features of early gallbladder carcinoma

Background: The depth of tumor penetration (T classification) is the most important prognostic factor in patients with gallbladder carcinoma. The term "early gallbladder carcinoma" has been recognized clinically as pT1 gallbladder carcinoma showing favorable prognosis after simple cholecystectomy. This study aimed to clarify the morphological features of early gallbladder carcinoma including tumor invading lamina propria (pT1a) or muscular layer (pT1b).

Methods: Of 882 patients with gallbladder carcinoma identified from a maintained database during the 29-year periods from 1982 through 2010, 299 had early gallbladder carcinomas, which formed the basis of this retrospective study. The macroscopic appearance was classified into 3 types: protruding type ($n=107, 36\%$), superficial type ($n=192, 64\%$), or excavated type ($n=0, 0\%$). Protruding type was subdivided into pedunculated and sessile, whereas superficial type was subdivided into elevated, flat, and depressed.

Results: Eighty-four of 107 (79%) protruding tumors were detected on pre- and/or intra-operative ultrasonography, whereas 47 of 192 (24%) superficial tumors were detected ($p < 0.001$). Of 107 protruding tumors, 21 showed pedunculated type and 86 showed sessile type. Seventy-six of 86 (88%) sessile tumors were accompanied with superficial-elevated and/or -flat types. Of 192 superficial tumors, 39, 62, and 91 tumors showed elevated type, flat type, and elevated plus flat types, respectively. There was no tumor with superficial-depressed type. Two hundred and fifty-seven (86%) patients had pT1a tumors and 42 (14%) had pT1b tumors. No patient had lymphatic vessel, blood vessel, or perineural invasion on histology except that lymphatic vessel invasion was detected in one patient with pT1b tumor. Lymph node metastases were absent in all lymph nodes examined.

Conclusions: Two-thirds of early gallbladder carcinomas feature superficial type. Most pT1b gallbladder carcinomas spread only locally without regional lymph node metastases.