

Clinical diagnosis

Case 349

2. Gall bladder cancer

[Progress]

He received radical cholecystectomy. Pathological examination revealed moderate-differentiated adenocarcinoma. Swollen lymph node revealed most reactive proliferation of lymphocytes. However, it contained minute volume of metastatic tumor.

[Discussion]

Gall bladder triangle is formed of liver inferior margin, right & proper hepatic duct, and cystic duct & gall bladder margin. Lymph node metastasis occurs first in lymph nodes present in gall bladder triangle. Lymph nodes metastasis is categorized into three orders; N1(First order), peri cystic duct; N2(Second order), peri hepatic (either right or left) artery, behind pancreas-duodenum and above pancreas head: N3 over N2 node(1, 2).

T factor indicating tumor proliferation & invasion is as follows; T1 tumor stay in mucosa, submucosa, and muscle layer; T2 tumor invades to muscle layer but stay in gall bladder mural (serosa); T3 tumor invade beyond gall bladder mural including direct invasion to one other organ (liver or duodenum): T4 invasion to two organs (liver, duodenum) or distant metastasis (1-3).

Radical surgical treatment of gall bladder cancer implies resection of gall bladder cancer and N2 lymph nodes. There is a significant difference in gall bladder cases between with negative lymph nodes metastasis and with positive (4). There is also a significant difference in gall bladder cases between with positive liver invasion or without (4).

As written in Case 335, Case 342, Case 353, ADC values of gall bladder cancer are around 1.0 and or lower. In case of gall bladder carcinoma associated with liver metastases, ADC values of gall bladder cancer were 0.6 level (5). ADC values are reported to be useful to differentiate gall bladder cancer from xanthogranulomatous cholecystitis because ADC values of xanthogranulomatous cholecystitis are around 1.63 (6). Sizes of neutrophils are around 15 micrometers. It is thought that ADC values are related to the sizes of cells, either tumor cells or non-tumor cells. As small cells present in greater compact and denser situation, ADC values becomes lesser. As other carcinomas emerge, grow, and evolve, gall bladder cancer evolves from high differentiated gall bladder cancer to moderate, low, and undifferentiated, and their sizes becomes smaller and denser, leading lowering ADC values.

In this series, ADC values of the present gall bladder cancer were 0.929, comparative to gall bladder cancer. Meanwhile, ADC values of swollen lymph node were 1.357 indicative of no malignancy. Pathologic examination revealed almost normal lymph node with superficially focal metastasis. It implied ADC values of normal lymph node are 1.2 to 1.4 although minute lymph node metastasis was found.

[Summary]

We presented a seventy-five-year-old male for increasing gall bladder mural followed by ultrasound in a local clinic. MRIADC values of thickened gall bladder mural were 0.929, and those of swollen lymph nodes 1.357. Surgical resection revealed high grade adenocarcinoma and almost reactive lymph node containing small metastatic tumors. It is borne in mind that first, swollen lymph node occurs in gall bladder triangle (N1), then, followed by along with right or proper hepatic artery and along with posterior and above pancreas head (N2). Tumor factor of T2 indicates tumor confined within gall bladder mural, that of T3 does tumor invasion outside gall bladder mural, either to liver or duodenum. ADC values of gall bladder cancer are 0.6 to 1.1 depending on differentiation or tumor sizes. ADC values turn lower as tumor sizes become smaller and grows denser.

[References]

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