

Imaging diagnosis

Case 345

3. Intraductal papillary mucinous neoplasm (possible)

[Progress]

He is scheduled to take abdomen CT for pancreatic cyst & pancreatic dilatation and intrahepatic biliary tract dilatation.

[Discussion]

Intraductal papillary mucinous neoplasm (IPMN) of biliary tract is similar with IPMN of pancreas in pathological and clinical findings. But the incidences are different: IPMN of biliary tract is relatively rare compared to that of pancreas (1-6). Both tumors secrete mucin, inducing dilatation of biliary or pancreatic duct. They are in precancerous state and gradually become to mature carcinoma. It begins at a stage of adenomatous dysplasia and grows to high, moderate, and poor differentiated adenocarcinoma. When it turns into carcinoma, it is often called as intraductal papillary mucinous carcinoma (IPMC), rather than IPMN. As tumor grows, mucin production increases, inducing dilatation of pancreatic or biliary tract. Tumor appears like a fungus ball in a duct and grows extraductal.

IPMN of biliary tract (IPMNB) emerges in Asia rather than western countries and occurs predominantly in male at ages of 40 to 80 (1-6). Hepatolithiasis and primary sclerotic cholangitis are risk factors for IPMNB.

Radiologically, IPMNB is depicted typically as intraluminal fungus ball in dilated biliary tract. In case of superficial spreading, biliary tract dilatation alone without mass formation is demonstrated (1-6).

In our case, biliary tract gradually dilated for 8 years. Although chronic cholangitis was listed as differential diagnosis, superficial spreading of IPMNB was possible because of no symptoms.

Mucin producing tumors emerge in various organs: liver, biliary tract pancreas, pancreatic duct, ovary, appendix, colon, and lung. MRIADC values of mucin producing carcinoma tend to be higher than those of typical adenocarcinoma (8-10). Regarding various carcinoma of the lung, ADC values are relatively high in mucinous adenocarcinoma compared to solid adenocarcinoma (8-10). Further, ADC values of squamous cell carcinoma are relatively lower than those of common adenocarcinoma (8,10). Furthermore, ADC values of small cell carcinoma are the lowest of all primary pulmonary cancer (8, 10). ADC values of IPMN of biliary tract are also relatively high that mimics IPMC of pancreas with higher values than pancreas cancer probably because both IPMC develop from adenomatous dysplasia via high differentiated and moderate differentiated to poor differentiated, indicating that tumor is getting to become smaller, and its character is getting to become more proliferative. The smaller tumor proliferate densely that makes extracellular space narrow, inducing disorder of water molecule diffusion and leading to make ADC values lower (8, 10).

【Summary】

We presented an eighty- two-year-old male whose left biliary tract gradually dilated compared to eight years before. He was diagnosed as possible IPMN of biliary tract. It is borne in mind that although typical IPMNB is demonstrated as fungus ball-like configuration in dilated biliary tract, gradual biliary tract dilation alone without formation of solid component is possible. Irrespective of pancreas origin or biliary tract origin, MRIADC values are relatively high, 1.2 or greater whereas those of adenocarcinoma, squamous cell carcinoma and small cell carcinoma are 1.1 or less, 1.0 or less and 0.9 or less, respectively.

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