

## Uncurable duodenal bulb ulcer-may be duodenal bulb cancer

To the Editor,

Duodenal bulb carcinoma is very rare clinically, and the clinical manifestation can resemble duodenal ulcer extremely. Although duodenal bulb cancer became increasingly recognized as a result of more frequent upper endoscopic examination, they are even considered as peptic ulcer or other diseases incorrectly. The diagnosis of duodenal bulb carcinoma is neglected easily, and the misdiagnosis proportion can be as high as 79.4% (1). For patients with uncurable duodenal bulb ulcer via regular treatment, we should wonder if there is the possibility of duodenal bulb cancer.

A 47-year-old man visited our hospital, complaining of haematemesis and melena for 13 hours. He underwent an upper endoscopy. We found an enormous ulcer (2.0\*3.0cm) in the anterior wall of duodenal bulb which was covered with white fur and the mucous membrane surrounding was swelling and distension. The pathology showed active moderate-severe chronic superficial inflammation in gastric antrum, accompanying with *H. pylori* infection. Then, he accepted quadruple therapy regularly for about twenty days. However, these symptoms were not controlled obviously, moreover he suffered from vague pain around umbilicus. Therefore, he accepted abdominal computerized tomography in our hospital. The result showed localized encapsulated effusion and gassiness, prompting perforation in the duodenal bulb. After non-surgical treatment, upper endoscopy was performed again, which showed multiple ulcers in duodenal bulb. The pathology result was adenocarcinoma in duodenal bulb. He is currently treated with surgery and his symptoms have been controlled.

Contrary to what its name implies, the small bowel constitutes 75% length of the alimentary tract and 90% of its mucosal surface area; yet in most countries, it is the site of less than 5% of gastrointestinal malignancies (2).

Most tumors originate in the duodenum (55.2%), followed by the jejunum (17.6) and ileum (13%) (3). The incidences of each part are 18~23% (bulb), 50~65% (descendant), 15~20% (horizontalis) (4). Because of a low incidence of duodenal bulb malignant tumors, general view considers duodenal bulb ulcerative diseases as benign lesions. A biopsy of ulcers leads to bleeding and perforation easily owing to thinness and richness of blood of the wall of duodenal bulb. Therefore patients with duodenal bulb ulcer are so rarely performed a biopsy and pathological examination that it causes misdiagnosis.

Diagnosis of duodenal bulb malignant tumors is based on clinical, radiological, endoscopic, and histologic features. Duodenal bulb cancer has an insidious onset. The majority of the patients has no specific symptoms and signs, including abdominal pain, abdominal distension, satiety, bad appetite, body weight loss, nausea and vomiting, haematemesis and melena and so on (3). It is misdiagnosed to other diseases such as peptic ulcer, chronic gastritis, chronic cholecystitis, acute pancreatitis. If some complications like pyloric obstruction, abdominal pain aggravation, progressive anemia, weight loss and abdominal mass appear in the short term, we should wonder if there is the possibility of cancer. Those who considered to bulb ulcer, accept regular quadruple therapy including PPI, H<sub>2</sub>RA and antibiotics against *H. pylori*, and the symptoms don't disappear, or even more serious. They need to be checked to distinguish cancer or simple peptic ulcer. Our patient also had the same symptoms, which did not disappear and abdominal pain added, along with proton pump inhibition treatment and *H. pylori* eradication. Therefore, we need to ask him to accept more examination insistently.

Barium X-examination has certain value for duodenal tumor, but generally considered that the accurately

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diagnostic rate is below 50% (5). But duodenal the hypotonic imaging method can improve the diagnosis rate in a certain extent. There is confusion between bulb mass and bulb deformation caused by ulcer. Niche of peptic ulcers is located out of the cavity in tangential X-ray image, while the one of cancer is in the cavity. X-ray of bulb cancer can show: (1)irregular filling defect in the cavity with rough outlines; (2)irregular niche with coarse mucous membrane, and duodenum expanding; (3)intestinal wall stiffness, peristalsis disappeared, enteric cavity narrow; (4)proximal intestine expansion in a certain degree. However, barium X-examination can not access to pathology results at the same time. It is the biggest limitations.

Computerized tomography can evaluate the violations of the surrounding organs, blood vessels, lymph nodes and distant metastasis in the case of cancer, to get the stages of tumors and to prepare for the surgery, but also can discover some complications such as perforation as in our patient. Kim HC believes that the diagnosis sensitivity of computerized tomography of duodenum cancers is higher than the gastrointestinal tract imaging (6). But computerized tomography can not get pathology results as well.

Upper endoscopy is the main diagnostic measure of the duodenal bulb cancer, which can be used to observe lesions directly, and biopsy can be done in the same time. Endoscopically, duodenal bulb cancer can manifest as mass, focal or diffuse ulcer, mucosal derangement or eminence. In order to improve the correctness of the endoscopic diagnosis, take multipoint biopsy to pathological examination repeatedly as soon as possible, in the following conditions: (1) elderly patients with bulbar lesions exacerbation in short-term; (2) regular medical treatment is ineffective; (3) duodenal ulcers are deep, and surfaces are covered with dirty fur.

Adenocarcinoma is the most common tumor(35%), followed by carcinoid (28%), lymphoma (21%), mesenchymal tumors (10%), and other rare tumor (6%) in small tumors (7). The staging system is by TNM staging. The ultimate treatment modality for neoplastic lesions is surgery, although in high risk or elderly

patients endoscopic resection with negative margins may be sufficient. Adjuvant therapy with 5-fluorouracil, adriamycin, mitomycin-C or other agents can be tried in unresected tumors (3). Most series report 5 year survival rates of 15-35% (8). The poor survival rate can be attributed to the non-specific nature of symptoms and significant delay in the diagnosis. Therefore, duodenal bulb ulcer patients, who can not be cured though regular medicine treatment, need to accept multipoint biopsy for pathological examination repeatedly. For patients who have high clinical suspicion of duodenal bulb cancer but can not be confirmed by all the checks above, laparotomy is recommended.

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