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A case of simultaneous triple primary gastrointestinal tumor

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Abstract Multiple primary carcinoma which is the same organ of the same patient or multiple organs, tissues has occurred two or more than two kinds of the primary malignant tumor. All cancer at the same time or 6 months from diagnosis is called simultaneous multiple primary carcinoma. In this case the patient suffering from cancer including rectal cancer, colon cancer and appendix gastrointestinal stromal tumor (GIST) three primary carcinoma, is simultaneous multiple primary carcinoma and it's extremely rare on the clinical cases. This report address that the incidence of the patient with operation and pathological diagnosis.

Key words gastrointestinal tumor; multiple primary carcinoma (MPC); simultaneous; surgical treatment

Clinical data

A 79-year-old male patient visited our hospital for caliber of the stools narrowing for 2 months in March 2, 2012, colonoscopy suggestion: rectal cancer with luminal narrowing. Colonoscopy could not pass through. The biopsy pathology diagnosed an adenocarcinoma of rectum, so he was admitted for a rectal cancer. The digital rectal examination: there was a hard cauliflower-like mass fixed to anterior rectal wall, 8 cm away from anus. Finger blood could be seen after the exam. Enhanced CT conforms to the CT manifestations of rectal cancer. The operation was performed under general anesthesia on March 15, 2012 after full preoperative preparation.

Intraoperative exploration: the rectal tumor located in peritoneal reflection and didn't invade serosa. Further exploration discovered a tumor located at ascending colon, size of about 4 cm × 3 cm × 2 cm with serosa invasion. Another tumor was discovered size of about 2.5 cm × 2 cm × 2 cm. The mass was hard and located at appendix. Intraoperative diagnosis: (1) rectal cancer; (2) ascending colon carcinoma; (3) appendiceal tumor, performing anterior resection+ right hemicolectomy. The postoperative pathological report from Shanghai Cancer Center, Fudan University (China) showed: (1) (rectal) middle differentiated adenocarcinoma invaded to deep layer muscle of intestine wall. The resection margin of specimen 2 was negative. There was no mesenteric lymph node metastasis but with 2 nodules. The pathological report showed a multiple tubulovillous adenoma with mild atypical hyperplasia of some part of glandular epitheliums. (2) (right half colon) middle differentiated adenocarcinoma which had transmural invasion to adipose tissue of serosa with neural and vessel metastasis. The resection margin of colon and ileum was negative. The pathological report showed a multiple tubulovillous adenoma with mild atypical hyperplasia of some part of glandular epitheliums. (3) (appendix) spindle cell tumor which with review of enzyme labeled result accorded with GIST. Size of the tumor was about 2.5 cm × 2 cm × 3 cm, mitosis < 5/50 HPF. Enzyme labeled HI12-3069: CalPonin of spindle cells (–), CD117 (+), CD34 (+), Desmin (–), DOG-1 (+), Ki-67 (< 2%), SMA (–; Fig. 1 and 2).

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Summary

Multiple primary carcinoma (MPC) means one or more organs or tissues arise two or more primary carcinoma in turn of one patient, which can occur everywhere through the body. Foreign incidence is 2%–13.5% [1], while domestic incidence is 0.4%–10.7% [2]. Nowadays the diagnosis standard which raised by Warren and Gates was widely acknowledged: (1) each kind of tumor should be confirmed by pathologic as malignant tumor; (2) each kind of tumor should has its own pathological histology; (3) tumors happen in different parts or organs, not being

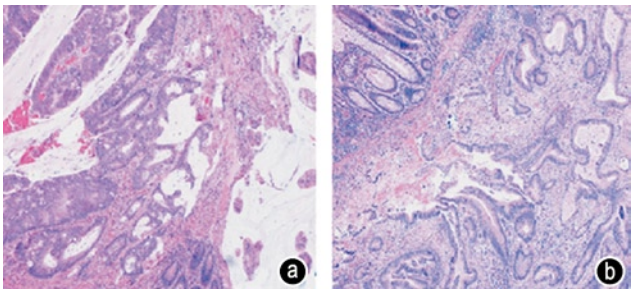

Fig. 1 Pathology of rectal carcinoma and ascending colon carcinoma. (a) Moderately differentiated adenocarcinoma of the rectum; (b) moderately differentiated adenocarcinoma of the ascending colon

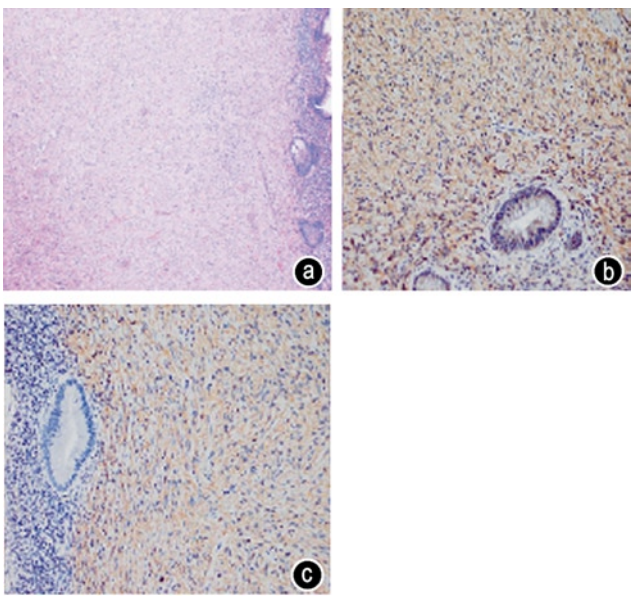

Fig. 2 Pathology of GIST of the appendix. (a) Gastrointestinal stromal tumor of the appendix (H&E × 40); (b) the expression of CD117 in GIST of the appendix (H&E × 40); (c) the expression of CD34 in GIST of the appendix (H&E × 40)

linked from each other; (4) each tumor should have its own route of metastasis. Recurrent or metastasis cancer should be excluded while diagnosis. All tumors being diagnosed at the same time or within 6 months called simultaneous MPCs while diagnosed without 6 months called metachronous MPC. Patient in this case was diagnosed as a triple primary cancer – simultaneous pit helial rectal cancer, ascending colon carcinoma and intestinal cell of Cajal (ICC) sourced appendix GIST which was very rare. Nowadays surgical treatment of MPC is the first choice. For colonoscopy not through the obstruction intestine patients, operations research is especially important, in this case we explored 2 other tumors to avoid missed diagnosis. Most GIST accompanied with gastrointestinal tumor was low-risk which compared with simplex GIST. The size of appendix GIST was 2.5 cm × 2 cm × 3 cm, mitosis < 5/50 HPF which identified a low-risk cancer. General conditions of patient and risk of GIST and another cancer should be evaluated to give a reasonable individual therapy. The patient is in a good condition now and being under chemotherapy and follow-up.

Conflicts of interest

The authors indicated no potential conflicts of interest.

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