

Case Report

Diagnosis of metachronous papillary thyroid cancer with elevated carcino-embryonic antigen levels in tracking rectal carcinoma

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ABSTRACT

Carcinoembryonic antigen (CEA) is a tumor marker that is mostly used to track patients with colorectal cancer (CRC). CEA is an indirect tumor marker that can be useful in both malignant and benign diseases. We presented the case of a 49-year-old man who had been monitored for a lower rectal adenocarcinoma since 2010. In 2010, he had an abdominoperineal resection. Previously completed both neoadjuvant and adjuvant chemo-radiotherapy. In 2019, he was planned to undergo parastomal hernia (PS) repair, but studies have shown elevated CEA levels. The CEA concentration was 27.6 ng/ml. Although there were no signs of recurrence, positron emission tomography (PET) and computed tomography (PET/CT) revealed considerable uptake in the left lobar thyroid. Papillary thyroid carcinoma (PCT) was found on fine needle aspiration cytology (FNAC). He underwent total thyroidectomy and CEA level reached the baseline after thyroidectomy.

Keywords: Carcinoembryonic antigen, Carcinoma colo-rectum, Papillary carcinoma thyroid

INTRODUCTION

CEA is a CRC tumour marker belonging to a family of cell surface glycoproteins.¹ CEA levels were measured during postoperative CRC follow-up.² For local colorectal cancer, the international standard recommends CEA every three to six months for at least three years after initial surgery, every six to 12 months for fourth and fifth year after initial surgery and every two to three months for metastatic CRC.^{3,4} CEA levels can be elevated in a variety of malignancies. We presented a case of CRC with elevated postoperative CEA associated with PCT. CEA is generally higher in medullary thyroid cancer. Elevated CEA is rare in PCT.

CASE REPORT

In 2010, a 49-year-old man underwent abdominoperineal resection for lower CRC. In 2019, he was evaluated

for parastomal hernia (PS) repair. His CEA level was 27.6 ng/ml and was normal before surgery. We used contrast-enhanced computed tomography (CECT) to look for distant metastases or local recurrences (CECT of chest, abdomen and pelvis revealed normal except parastomal hernia and colonoscopy was normal). PET and CT showed significant accumulation of fluorodeoxyglucose (FDG) in the left lobe of the thyroid gland. An ultrasonography (USG)-led FNAC confirmed PCT and underwent total thyroidectomy. CEA returned to baseline (3.4 ng/ml) six months after thyroidectomy.

DISCUSSION

Gold et al first discovered CEA in colorectal cancer tissue in 1965.⁵ CEA is a commonly used tumour marker to track the recurrence and metastasis of malignant neoplasms of the digestive tract. In individuals with high CEA levels but no other clinical signs, tumours originating in the digestive system should be initially excluded by endoscopy,

colonoscopy and CECT abdomen and pelvis. It was important to remember that CEA is not the only gastrointestinal tumour marker. Some benign diseases, such as cirrhosis of the liver and inflammatory bowel disease, can be exacerbated by high levels of CEA. CEA is also high in thyroid carcinomas, especially medullary thyroid carcinomas. CEA levels were high in several sporadic PCT. CEA levels have been used to determine the effectiveness of treatment, and CEA analysis is also useful in the treatment and follow-up of thyroid cancer.⁶ Clinical examination, CECT (chest, abdominal and pelvis) and colonoscopy were normal in our case. On PET/CT, FDG uptake was found in the left lobe of the thyroid gland. After confirmation by fine needle aspiration cytology, total thyroidectomy was performed. After thyroid surgery, CEA levels returned to normal. Then the patient was treated for a parastomal hernia. The postoperative time went without a hitch. He was monitored on a regular basis.

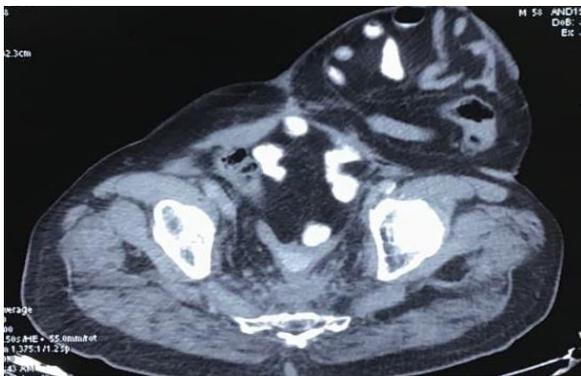


Figure 1: CT abdomen showing para-stomal hernia.



Figure 2: PET-CT showing, uptake in left lobe of thyroid.

CONCLUSION

Carcinoembryonic antigen levels can be elevated in papillary carcinoma of thyroid. We should keep in mind that raised CEA levels in CRC follow-up, may be due to carcinoma thyroid. In CRC follow-up after ruling out recurrence and metastasis by clinical examination, endoscopy and CECT, PET/CT should be done for elevated CEA levels.

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