

CASE REPORT

Ascending colon adenocarcinoma with tonsillar metastasis: A case report and review of the literature

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Abstract

Metastatic palatine tonsil cancer is extremely rare, with nearly 100 such tumors reported in the English literature. The prognosis of metastatic palatine tonsil cancer is poor. A 53-year-old man presented with painless left palatine tonsillar swelling and a cervical mass following right hemicolectomy for an ascending colon adenocarcinoma. Physical examination showed an ulcerated mass located on the upper pole of the left palatine tonsil. A punch biopsy was taken for histological examination which showed a moderately-differentiated adenocarcinoma. The patient was treated with palliative radiotherapy and chemotherapy. He was still alive when we wrote this paper. Our case shows that immunohistochemical diagnosis of metastatic palatine tonsil cancer is essential.

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INTRODUCTION

Metastatic palatine tonsil tumor is uncommon despite the palatine tonsil is rich in vasculature. It was reported that the incidence of metastatic palatine tonsil cancer is about 1%^[1]. Metastatic palatine tonsil tumor generally occurs in lung^[2], breast^[3], stomach^[4], and kidney^[5,6]. Distant metastasis of palatine tonsil tumor in liver^[7], brain^[8], and lung^[9] is usually found in colorectal cancer patients following a surgical resection. Metastatic palatine tonsil tumor is often accompanied with synchronous lesions in other organs, a sign needing aggressive palliative treatment^[10].

It is often difficult to distinguish a metastatic tumor at an unusual site from a secondary cancer, especially after long-term complete remission. In this paper, we report a case of metastatic palatine tonsil tumor from an ascending colon carcinoma and reviewed the cases reported in the English literature.

CASE REPORT

A 53-year-old man with bellyache and changes in bowel habit was diagnosed having an adenocarcinoma of the ascending colon in January 2006. He underwent a right hemicolectomy, which showed a moderately-differentiated adenocarcinoma measuring 60 mm × 60 mm × 10 mm in size. The tumor invaded the subserosal layer (T₃) with three excised positive regional lymph nodes (N₁). The patient received 4 courses of adjuvant chemotherapy with fluorouracil and leucovorin and was regularly followed up, with physical examination, abdominal ultrasonography and detection of serum carcinoembryonic antigen (CEA) performed every 3 mo. One and a half years later, he was referred to our hospital due to painless left palatine tonsillar swelling and a cervical mass. He had no gastrointestinal and head symptoms. Physical examination showed an ulcerated mass located on the upper pole of the left palatine tonsil, about 2 cm in diameter. Several enlarged, fixed cervical lymph nodes were found in

Table 1 Reported cases of metastatic palatine tonsil tumor from colorectal cancer in the English literature

NO. (Ref)	Gender	Age	Primary site ¹	Differentiation ²	Interval (mo) ³	Location	Treatment	Prognosis(mo)
1 (13)	Female	55	R	Well	84	Right	Radiotherapy	nr
2 (14)	Male	53	R	Poorly	24	Right	Tonsillectomy	6 alive
3 (15)	Male	45	R	Poorly and signet-ring	0	Left	Radiotherapy and tonsillectomy	6
4 (16)	Male	36	R	Signet-ring	24	Right	Tonsillectomy	15 alive
5 (17)	Female	81	A	Moderately	0	Left	Tonsillectomy	12
6 (18)	Male	44	A	Signet-ring	0	Left	Radiotherapy	nr
7 (19)	Male	65	T	Poorly	0	Left	Radiotherapy	6
This case	Male	53	A	Moderately	19	Left	Radiotherapy	13 alive

¹A = ascending colon, T = transverse colon, R = rectum, nr = not referred; ²Well = well differentiated adenocarcinoma, moderately=moderately-differentiated adenocarcinoma, poorly = poorly-differentiated adenocarcinoma, Signet-ring = signet-ring cell carcinoma; ³Interval = the time between the diagnosis of colorectal carcinoma and the development of metastatic palatine tonsil tumor.

the left area. The rest findings of physical examination were unremarkable. The CEA, CA125 and AFP levels were within the normal range. Magnetic resonance image (MRI) revealed an enlarged left palatine tonsil narrowing the oropharyngeal airway. At the same time, a lesion in the left temporal lobe of the brain was found, about 3 cm in diameter. Chest X-ray and abdominal ultrasonography also showed no metastasis in lung and liver. A punch biopsy was taken for histological examination which showed a moderately-differentiated adenocarcinoma. Immunohistochemistry showed that the tumor cells exhibited immunoreactive CDX2 and villin, an immunomarker. These features were consistent with those of metastatic colorectal adenocarcinoma. The patient was treated with palliative radiotherapy and chemotherapy.

DISCUSSION

The palatine tonsil is one of the most common sites of head and neck cancer and squamous cell carcinoma in adults^[11] as well as lymphoma in children^[12]. Metastatic palatine tonsil cancer is extremely rare, with only 100 such tumors reported in the English literature. We present a case of metastatic palatine tonsil cancer manifested as a left palatine tonsil mass from a primary ascending colon adenocarcinoma.

Seven cases of metastatic palatine tonsil tumor from colorectal carcinoma have been reported in the English literature^[13-19] (Table 1). The age of these cases ranged 36-81 years with a median age of 54 years, and the male and female ratio was 5:2. Of the 7 cases, 4 had a primary rectal cancer^[13-16], 2 had a primary ascending colon cancer^[17,18] and 1 had a primary transverse colon cancer^[19]. Our case was a 53-year old male patient with primary ascending colon cancer. Metastatic palatine tonsil cancer is often unilateral, with the left side more commonly involved than the right side^[20]. Lymphatic routes have been proposed as the possible pathways of metastatic palatine tonsil cancer from colorectal cancer. Of the 7 reported cases, 5 had primary lesions with metastatic regional lymph nodes, 2 had enlarged cervical lymph nodes when the palatine tonsil mass was found. Similar findings were evident in our patient.

Metastatic palatine tonsil tumor from colorectal cancer is generally considered a systematic disease with a poor prognosis. No matter it is treated with radiotherapy or tonsillectomy, the survival time of such patients is 6-15 mo. Radiotherapy remains the choice of treatment for palatine tonsil tumor^[21]. Tsubochi *et al*^[22] have reported a successfully-treated metastatic lingual tonsillar tumor from bronchial adenocarcinoma after external radiotherapy, and the patient was still alive 8 years after the treatment. However, the beneficial effects of radiotherapy on patients with metastatic palatine tonsil tumor remain unclear and should be further studied.

It is difficult to determine whether palatine tonsil tumor is primary or secondary, especially after long-term complete remission. In our case, metastatic palatine tonsil tumor had a carcinoma origin, because it was very similar to a colorectal adenocarcinoma. Also, to make sure that metastatic palatine tonsil tumor is originated from an ascending colon cancer, immunohistochemical staining for its tissue was performed. Immunomarkers, such CDX2 CK20 and villin, are useful in determining the primary site of adenocarcinoma. Suh *et al*^[23] reported that nearly all colorectal adenocarcinomas can express CDX2 and villin, which are of diagnostic values in distinguishing primary from secondary colorectal carcinoma.

In conclusion, metastatic palatine tonsil tumor from colorectal cancer rarely occurs, and immunohistochemical diagnosis of metastatic palatine tonsil tumor is essential.

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