Metachronous Metastasis to the Oral Cavity from Carcinoma Rectum - a Case Report and Review of Literature

Nawaz Usman · Abhay Kattepur ·
Kodaganur S. Gopinath

Received: 12 April 2014 / Accepted: 8 July 2014 / Published online: 3 February 2015
© Indian Association of Surgical Oncology 2015

Abstract The common patterns of dissemination and recurrence of rectal cancer are known and well documented. However extravisceral involvement is a relatively uncommon entity. Therefore, these metastases are not well studied in sufficiently large numbers to formulate evidence based recommendations regarding their optimal treatment. This report describes a case of carcinoma of the rectum metastatic to the oral cavity causing symptoms severe enough to necessitate operative management.

Keywords Colorectal carcinoma · Oral cavity · Metastasis

Introduction

The advances in the diagnosis and treatment of rectal malignancies have led to increased overall survival, thereby increasing the likelihood of new patterns of recurrences and less documented areas of distant metastases. Metastatic involvement of oral cavity from rectal cancers is a rare occurrence. We report a rather rare case of a metachronous oral cavity metastasis in a 60 year old gentleman treated for rectal cancer.

Case Details

A 60 year old gentleman, a known case of carcinoma rectum since 2011 (T3N2M0) treated by surgery (APR), chemotherapy (5 –FU and XELOX combination) and radiation presented with history of swelling in the left mandible and severe trismus precluding food intake with foul smell and bleeding with excessive salivation since 2 months.

Clinical examination revealed a large proliferative growth involving the left buccal mucosa and gingivo-buccal sulcus and lower alveolus with foul smelling discharge from oral cavity. The growth bled on touch. There were no palpable lymph nodes in the neck.

Investigations revealed increased CEA (43.9), ALP (903) and LDH (1083) levels. A PET CT scan done showed an expansile osteolytic mass in the left ramus, angle and body of mandible with large extra soft tissue component infiltrating the submandibular and sublingual spaces measuring $7.7 \times 10.1 \times 6$ cm (SUV16.6). It also demonstrated metastases in the both adrenals (SUV 6.3) and right humerus (SUV13.5) Figs. 1, 2 and 3.

The severity of the patient's symptoms necessitated a palliative resection of the left hemimandible with a PMMC flap cover. Operative findings noted were growth arising from the mandible extending onto the buccal mucosa, alveolus and floor of mouth with few enlarged lymph nodes at levels I and II.

HPE revealed metastatic adenocarcinoma with signet ring cells and extra cellular mucin.

The tumor showed cortical destruction and was infiltrating the buccal mucosa.

The lymph nodes were positive for tumor and showed extra capsular extension.

On IHC, the tumor cells were positive for CK 20, CDX 2 and negative for CK 7.

N. Usman (✉) · A. Kattepur
Surgical Registrar, HCG Bangalore Institute of Oncology, House no. 2-30, Addagadde House, College Road, Kadaba post, Puttur Taluk, Karnataka State, India 574221
e-mail: drnawazusman@gmail.com

K. S. Gopinath
Chief Surgical Oncologist, HCG Bangalore Institute of Oncology, Puttur Taluk, India

Fig. 1 PET-CT image of the mandibular secondary

An elevated CEA level and the IHC pattern characteristic of colorectal adenocarcinoma [1] put the diagnosis beyond doubt and the patient was diagnosed to have metachronous metastases in the mandible, adrenal glands and humerus.

The patient recovered well from the surgery and was advised palliative chemotherapy. But the patient refused chemotherapy. He presented 4 months later with spinal cord compression, cervical lymphadenopathy and multiple bony metastases and succumbed to the disease shortly afterwards.

Discussion

Despite advances in screening and treatment, approximately 50 % of patients with colorectal cancer eventually develop metastatic disease [2]. The most common sites of distant

Fig. 2 Mucosa with underlying adenocarcinoma (10×)

Fig. 3 Pleomorphic glands separated by fibrous septae

metastasis are to the liver and lung. Metachronous metastases most frequently develop after control of the primary, with the liver again being the most common site of involvement [3].

Metastatic deposits to the oral cavity are rare, comprising approximately 1 % of all oral malignancies [4]. Of these, lung, kidney and prostate are the most common primaries in men with breast, genital organs and kidneys in women [5]. A high index of suspicion and careful work up including Immunohistochemical studies are needed to correctly diagnose these tumors as metastases from minor salivary gland adenocarcinomas can cause diagnostic dilemma. Colorectal adenocarcinoma metastases usually express CK20, but not CK7 [1] and usually have elevated CEA levels.

Presence of extrahepatic metastases, presence of more than 3 tumors and a disease free interval of fewer than 12 months have all been associated with a poor prognosis in patients with colorectal cancers [6]. The time from detection of metastases to death is a mean of 7.3 months [7].

Long term disease free survival can be achieved in 25 to 40 % of selected patients who undergo resection of liver or lung only metastases [2]. For all other patients, treatment is largely palliative [2].

A careful literature search using the search engine Google yielded 24 reported cases of oral cavity metastases from colorectal cancer. Majority of them was to the mandible (13 cases) with the remaining being gingiva (5 cases), and 1 case each involving hard palate, floor of mouth, tongue, tonsil and labial sulcus. One case was reported as oral cavity without specifying the subsite.

We picked ten well detailed case reports and compared them (Table 1). Barring one case reported by Hiraoki Soda et al. [8], all the other cases had multiple metastases at other sites as well and all of those cases had disease progression to death within a short duration. The case reported by Hiraoki Soda et al. [8] was unique in that the mandible was the only site with metastasis and the patient underwent a successful

Table 1

Author	Time duration following primary treatment	Location in oral cavity	Isolated/ Multiple	Treatment	Outcome	Primary surgery/Treatment
Hsuan-Chih Hsu et al. [9]	49 months	Mandible	Multiple	Palliative Radiotherapy	Death due to disease progression	Low anterior resection
Hiraoki Soda et al. [8]	26 months	Mandible	Isolated	Chemo- Radiotherapy+ Mandibular Resection with Reconstruction	Disease free 3 years following surgery	Abdominoperineal resection with partial hepatectomy
Carlos Álvarez Álvarez et al. [10]	6 months	Mandible	Multiple	Palliative Radiotherapy	Death due to disease progression	Palliative colostomy and chemotherapy
A. Corde Mason et al. [11]	At presentation	Mandible	Multiple	Declined treatment	Death due to disease progression	Palliative stenting for intestinal obstruction
Aymen Lagha et al. [12]	12 months	Mandible	Multiple	Palliative Chemotherapy	Death due to disease progression	Abdominoperineal resection
F.H.G. Coad et al. [13]	At presentation	Mandible	Multiple	Trans-oral laser debulking	Death due to disease progression	Symptomatic care
Grammatica L et al. [14]	6 months	Mandible	Multiple	Palliative Radiotherapy	Death due to disease progression	Colectomy and oophorectomy
Jian-Ping He et al. [15]	18 months	Tonsil	Multiple	Chemotherapy	Death due to disease progression	Abdominoperineal resection
Abhilash Bhaskaran et al. [16]	At presentation	Tongue	Multiple	Symptomatic care	Details not available	Symptomatic care
Tejinder Singh et al. [17]	39 months	Floor of mouth resection+Radiotherapy+Chemotherapy	Multiple	Palliative Chemotherapy+Radiotherapy	Death due to disease progression	Abdominoperineal
Our Case	24 months	Mandible, Gingivobuccal sulcus and buccal mucosa resection+Radiotherapy+Chemotherapy	Multiple	Hemi-mandibulectomy+flap coverage	Death due to disease progression	Abdominoperineal

curative surgery and was on follow up for three years at the time they reported the case. IHC was used in almost all the cases, underlining the importance of IHC in settling the diagnosis in such cases.

Conclusions

Metachronous metastasis from colorectal primary to the oral cavity is a rare entity. It is important, however, that the treating surgeon be alert to the possibility of such diagnostic surprises and have a high index of suspicion while dealing with such cases. However more often than not, they are associated with recurrences in multiple sites, precluding curative therapy. Nonetheless, surgical resection can also be done in selected cases with improvement in quality of life and occasionally, disease free survival.

References

- Kende AI, Carr NJ, Sobin LH (2003) Expression of cytokeratins 7 and 20 in carcinomas of the gastrointestinal tract. *Histopathology* 42: 137–40
- Kindler HL, Shulman KL (2001) Metastatic colorectal cancer. *Curr Treat Options in Oncol* 2(6):459–471
- Fong Y, Cohen AM, Fortner JG et al (1997) Liver resection for colorectal metastases. *J Clin Oncol* 15:938–946
- Schwartz ML, Baredes S, Mignogna FV (1988) Metastatic disease to the mandible. *Laryngoscope* 98(3):270–3
- Gomes A, Neto PJ, de Oliveira e Silva ED, Savio E, Neto IC (2009) Metastatic adenocarcinoma involving several bones of the body and the cranio-maxillofacial region: a case report. *J Can Den Assoc* 75: 211–4
- NCCN Clinical practice guidelines in oncology. Colon Cancer; version 2.2014
- Hirshberg A, Leibovich P, Buchner A (1994) Metastatic tumors to the jawbones: analysis of 390 cases. *J Oral Pathol Med* 23:337–341
- Soda H et al (2010) Mandibular bone metastasis of rectal cancer: report of a case. *Surg Today* 40:1188–1191
- Hsu H-C, Huang E-Y, Eng H-L (2002) Cheek mass as a presentation of metastatic rectal cancer. *Chang Gung Med J* 25(5):345–348
- Álvarez-Álvarez C, Iglesias-Rodríguez B, Pazo-Iraza S, Delgado-Sánchez-Gracián C (2006) Colonic adenocarcinoma with metastasis to the gingiva. *Med Oral Patol Oral Cir Bucal* 11:E85–7
- Corde Mason A, Azari KK, Farkas LM, Umamaheswar D, Myers EN (2005) Metastatic adenocarcinoma of the colon presenting as a mass in the mandible. *Head Neck* 27:729–732
- Lagha A, Chraiet N, Krime S, Ayadi M, Rifi H, Raies H, Mezlini A (2012) Gingival metastasis from rectal cancer. *Int J Case Rep Images* 3(1):2426
- Coad FHG, Thayalasekaran S, Booth J (2013) An unusual presentation of metastasis from a rectal adenocarcinoma. *QJM: Mon J Assoc Physicians* 106(10):943–5
- Grammatica L, Achille G, Montepara M, Zito A, Montemurro S (2001) Mandibular metastases from rectal adenocarcinoma: clinical case report and review of the literature. *Acta Otorhinolaryngologica Italica: Organo Ufficiale Della Società Italiana di Otorinolaringologia e Chirurgia Cervico-facciale* 21(2):115–118
- Jiang Ping H, Shuang Z, Zong-guo P, Qiu L (2014) Rectal adenocarcinoma metastatic to the tonsil; PET-CT observations with pathological confirmation: a case report. *Oncol Lett* 7:153–155

16. Abhilash B, Sam H, David C (2011) An unusual presentation of metastatic colon adenocarcinoma in the oral cavity. *Case Rep Dent* 2011, Article ID 357518. doi:[10.1155/2011/357518](https://doi.org/10.1155/2011/357518), 2 pages
17. Tejinder S, Usha Amirtham CT, Satheesh KC, Lakshmaiah TM, Suresh K, Govind Babu C (2011) Ramachandra. Floor-of-mouth metastasis in colorectal cancer. *Ann Saudi Med* 31(1):87–89