Metastatic spread from colorectal carcinoma is quite predictable, and is initially by the lymphatic route, followed by the hematogenous route. The commonest sites for distant metastases are liver and lung. Metastatic tumors in the oral region are uncommon and account for approximately 1% of all malignant oral tumors. Metastases in the oral region can occur in oral soft tissues or jawbones. Metastatic tumors in the jawbones are more frequently reported than those in the oral mucosa (by a ratio of 2.5:1). The most common primary sources of metastatic tumors in the oral region are cancers in the breast, lung, kidney, bone, or colorectum. We report a case of colorectal carcinoma with metastasis to the floor of the mouth. This is probably the first reported case of metastasis to the floor of the mouth in a patient with colorectal cancer.

CASE

A 42-year-old woman was admitted in December 2003 with a 10-day history of blood and mucus in the stool. Rectal examination and endoscopic evaluation showed a circumferential lesion that began 4 cm above the anal verge and caused an obstruction. A CT scan of the abdomen demonstrated a mass of 4.5 cm in length with filling defect. A transanal incisional biopsy was performed. Histologic examination revealed a mucinous adenocarcinoma of the rectum extending through the whole muscular layer with invasion of the serosa (Figure 1). There was nodal involvement (two lymph nodes), and it was staged T3N1M0. Postoperatively, she received a course of radiotherapy (RT) consisting of 50 Gy in 25 fractions to the whole pelvis. Following RT, she received 6 cycles of 5-fluorouracil/leucovorin. She remained symptom free until January 2007. She was readmitted with per-
consistent lower abdominal pain of 1-month duration. Clinical examination was noncontributory. CT scan of the abdomen revealed 3.8×3.0×3.2-cm hypodense lesion in the mid-presacral region. CT-guided fine-needle aspiration cytology of the lesion was suggestive of recurrence of adenocarcinoma. She was treated with 6 cycles of FOLFOX4 (oxaliplatin, folinic acid and 5-fluorouracil), and a CT scan of the abdomen subsequently revealed complete disappearance of the lesion. Within 2 months, she was readmitted with a growth in the floor of the mouth (Figure 2). A punch biopsy was performed. Histopathological examination revealed a well-differentiated adenocarcinoma (Figure 3), and the original primary and floor-of-mouth metastases were morphologically similar. She was treated with chemotherapy regimen consisting of FOLFOX4 with bevacizumab. Two cycles of chemotherapy elicited no response, and the growth was progressively increasing in size. Chemotherapy was stopped and she was treated with radiotherapy consisting of 64 Gy/32 Fr. She did not respond to radiotherapy either and succumbed to the disease after 20 days.

**DISCUSSION**

From available evidence, it is known that patients with disseminated colorectal cancer fare poorly, which was observed in the present case. Oral metastatic tumors are uncommon and comprise approximately 1% of all malignant oral neoplasms. Breast is the most common site for cancers that metastasize to the oral soft tissues in females (Table 1). Few cases of metastasis to the oral cavity from colorectal carcinoma have been reported in literature (Table 2). In most cases, the site of metastasis is gingival. Our case is unique in that probably this is the first case report of metastasis to the floor of mouth from colorectal carcinoma.

Whereas early detection and surgery remain the main therapeutic options for adenocarcinoma of the

**Table 1.** Common primary tumor sites for cancers that metastasize to the oral soft tissues.

| Tumor Site   | Percentage |
|--------------|------------|
| Breast       | 24%        |
| Genital organs | 17%      |
| Lung         | 12%        |
| Kidney       | 10%        |
| Bone         | 10%        |
| Skin         | 7%         |
| Rare tumors  | 20%        |

**Table 2.** Reports of metastasis to oral cavity from colorectal carcinoma.

| Author                   | Site of metastasis |
|--------------------------|--------------------|
| 1                        | David Moffat et al |
| 2                        | Rusthoven et al   |
| 3                        | Alvarez et al     |
| 4                        | Morimasa et al    |
| 5                        | Masahiko et al    |
| 6                        | Yoshihiro et al   |
| 7                        | Rentschler et al  |

**Gingiva**
colon, a good response to chemotherapy in an advanced case is also reported. Metastatic lesions in the oral cavity cause acute progressive discomfort, such as pain or bleeding, as in this case. Therefore, even in cases with advanced malignant disease, palliative treatment is necessary to improve the quality of life. Early diagnosis and treatment are essential to prevent the pain and discomfort associated with ulceration, infection and local tissue destruction by such lesions. Although local lymph nodes, liver and lungs are the common and initial sites of spread from colorectal cancers, disseminated metastases with sparing of these organs is unlikely but possible. Combination chemotherapy, as mentioned, might be the ideal regimen, although the prognosis remains dismal. The possibility that a floor-of-mouth growth represents a metastatic neoplasm must be considered in patients with a known or suspected malignancy such as colorectal carcinoma.

REFERENCES

1. Meyer I, Shklar G. Malignant tumors metastatic to mouth and jaws. Oral Surg Oral Med Oral Pathol 1965;20:350-62.
2. Hirshberg A, Buchner A. Metastatic tumors to the oral region: An overview. Eur J Cancer B Oral Oncol 1995;31:355-60.
3. Moffat DA. Metastatic adenocarcinoma of the rectum presenting as an epulis: A case report. Br J Oral Surg 1976;14;90-2.
4. Rusthoven JJ, Fine S, Thomas G. Adenocarcinoma of the rectum metastatic to the oral cavity: Two cases and a review of the literature. Cancer 1984;54:1110-2.
5. Alvarez C. Colonic adenocarcinoma with metastases to the gingival. Med Oral Patol Oral Cir Bucal 2006;11:585-7.
6. Tomikawa M, Higuchi Y, Saku M, Takeshita M, Yoshida K, Sugimachi K. Carcinoma of the colon metastatic to the lower gingival. Dig Surg 2001;18:333-35.
7. Kawamusa M. Gingival metastases from rectal cancer. J Gastrointest Surg 2007;11:1.
8. Yoshito A. An autopsy case of rectal carcinoma with metastases to the oral region. Higushi Nippon J 1997;16:295-9.
9. Rentschler RE, Thrasher TV. Gingival and mandibular metastases from rectal adenocarcinoma: A case report and 20 yr review of the English literature. Laryngoscope 1982;92:795-7.
10. Juturi JV, Francis B, Koontz PW, Wilkes JD. Squamous-cell carcinoma of the colon responsive to combination chemotherapy: Report of two cases and review of the literature. Dis Colon Rectum 1999;42:102-9.