

Unusual Distant Metastasis of Oral Cancer to Anterior Abdominal Wall

R Singh, S Kamboj, B Ahuja, K Sodhi, N Husain

Citation

R Singh, S Kamboj, B Ahuja, K Sodhi, N Husain. *Unusual Distant Metastasis of Oral Cancer to Anterior Abdominal Wall*. The Internet Journal of Surgery. 2007 Volume 16 Number 1.

Abstract

An unusual case of myocutaneous metastasis from a squamous cell carcinoma of the oral cavity is reported. Myocutaneous metastasis in oral cancers is very rare and it accounts for less than 1% of cases. A 50-year-old female presented with a primary lesion in the gingivo-buccal sulcus and underwent wide resection with ipsilateral modified radical neck dissection. Her histopathological diagnosis was invasive squamous cell carcinoma, moderately-differentiated, the inferior margin of resection was close and the stage was T4N1M0 (Stage-III). Adjuvant radiotherapy was given with a summated tumor-bed & neck dose of 6000cGy completed in six weeks. She presented four months after therapy with a discrete lump in the abdominal wall that showed metastatic squamous cell carcinoma on ultrasound-guided cytology. The CT scan also showed a ring-enhancing metastatic lesion in the right temporo-occipital region. The patient refused further therapy and expired three months after detection of the metastases.

INTRODUCTION

Distant metastases in head and neck squamous cell carcinoma (HNSCC) frequently occur in the lungs, brain, bone and skin [1] but it is vanishingly rare in the distant skeletal muscles. Few cases have been reported till now [2, 3]. There are sporadically reported cases worldwide of atypical presentations of distant metastasis in HNSCC with the attempts to determine the risk factors and the prognostic implications of such metastasis. Here we report a novel case of distant metastasis of squamous cell carcinoma of the oral cavity to the anterior abdominal wall muscles.

CASE REPORT

A 50-year-old lady presented with a painless, hard, ulceroproliferative growth (4x2cm) over the right lower gingivo-buccal sulcus with an ipsilateral, single, non-tender, hard, and fixed submandibular lymph node (3x2cm). Squamous cell carcinoma was diagnosed in a punch biopsy from the primary lesion. A meticulous history for the headache, bone or joint pain, cough, chest pain and icterus was sought, chest X-ray and ultrasound of the whole abdomen were done, but no evidence of any distant metastasis was detected. Orthopantogram showed a well-defined osteosclerotic area in the right side of the mandible. A wide excision with right-sided segmental mandibulectomy with ipsilateral modified radical neck dissection was done. A detailed

histopathological examination revealed invasive squamous cell carcinoma (moderately-differentiated, large cell keratinizing type) (Fig. 1) with involvement of a single level I lymph node with extra-capsular invasion. The tumour cells were positive for cytokeratin and negative for desmin reactivity in immunostaining. The tumour invaded the interdental gingiva from the medial side of the teeth. The inferior margin of the resection was close and separated by a thin rim of muscle and fibrous tissue. There was evidence of vascular and bony invasion, but lymphatic and perineural invasion was not seen. A final diagnosis of squamous cell carcinoma, right lower gingivo-buccal sulcus, T4N1M0 Stage-III according to the American Joint Cancer Committee 2002, was made. The postoperative period was uneventful. Adjuvant radiotherapy was started two and a half months after surgery with a summated tumor-bed & neck dose of 6000cGy completed in 6 weeks (4600cGy in 23 cycles at the rate of 200cGy/cycle with 5 cycles/week followed by 1400cGy in 7 cycles at the rate of 200cGy/cycle). Following therapy completion, the patient was called at 4-6 weekly intervals for routine follow-up and was subjected to clinical examination. She had remained asymptomatic for the next four months when, during a visit, she complained of a painless lump in the right hypochondrium and vague headache for the past one week. Clinically, the primary site was found to be healthy but there was a discrete lump in the

anterior abdominal wall in the right hypochondrium (Fig. 2). There was no history of any trauma or instrumentation. High-resolution ultrasonography showed a mixed echoic space-occupying lesion in the muscular layer of the anterior abdominal wall (Fig. 3). Ultrasound-guided fine-needle aspiration cytology was done which confirmed the lesion as metastasis from squamous cell carcinoma (Fig. 4). Simultaneously, a non-contrast CT scan of the head was done which showed a ring-enhancing lesion with hypodense core and grade-two perilesional edema in the right temporo-occipital region of the brain suggestive of metastasis (Fig. 5). Though there was no evidence of either hepatic, pulmonary, bony or any other organ involvement, the condition of the patient deteriorated considerably during her one-week hospital stay. The patient and her relatives were informed about the prognosis and were advised CT-guided biopsy to confirm the diagnosis followed by radiotherapy for the brain lesion and lumpectomy of the abdominal wall lesion with adjuvant chemotherapy as further management. She denied further therapy and died after 3 months of detection of metastasis.

Figure 1

Figure 1: Section from the primary lesion showing an invasive squamous cell carcinoma with keratin pearls. H&E x 125 x digital magnification

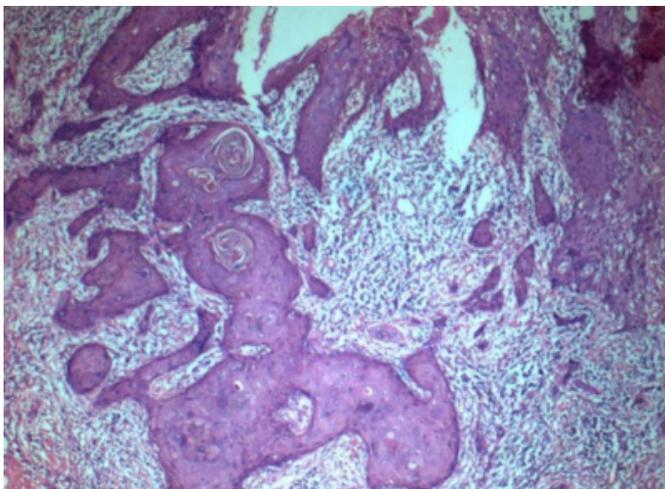


Figure 2

Figure 2: Operated patient with healed primary site and abdominal wall swelling (marked)



Figure 3

Figure 3: High-resolution ultrasonography showing a mixed echoic space-occupying lesion in the muscular layer of the anterior abdominal wall

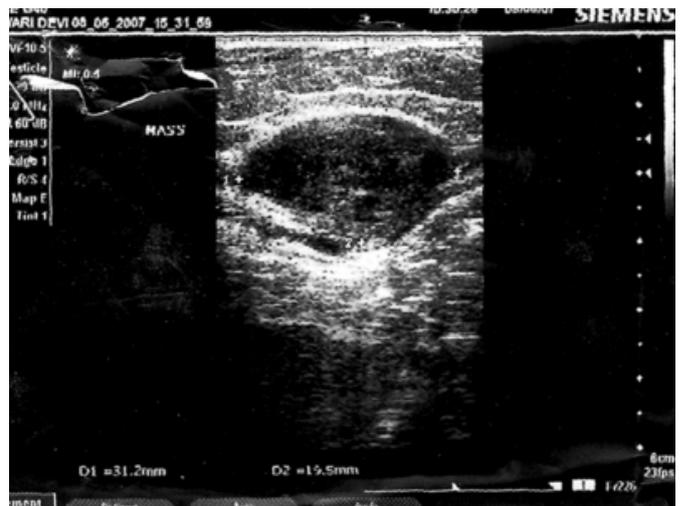


Figure 4

Figure 4: Cytosmears from aspirate from the abdominal wall showing clusters of squamous cells with angular outlines and dense hyperchromatic nuclei with focal cytoplasmic keratinization. Giemsa x 525 x digital magnification

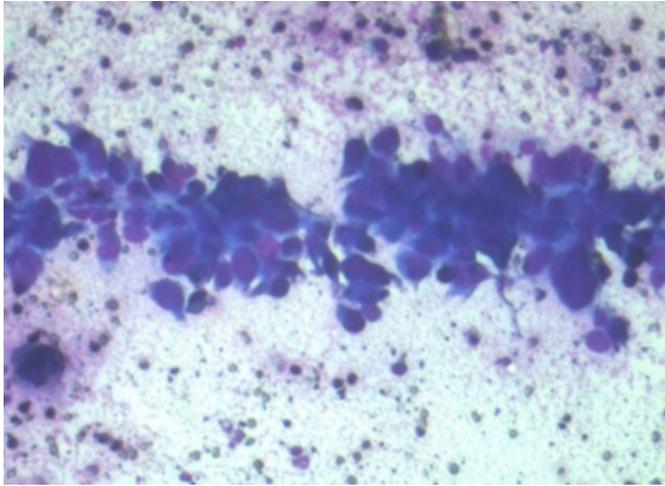


Figure 5

Figure 5: A non-contrast CT scan of the head showing a ring-enhancing lesion with hypodense core and grade-two perilesional edema in the right temporo-occipital region of the brain, suggestive of metastasis



DISCUSSION

Head and neck squamous cell carcinoma most commonly spreads with the lymphatics; clinical evidence of non-lymphatic distant spread accounts for approximately 10% of the cases and is typically found in the lungs, brain, bones, and skin [3]. Incidence of distant skeletal muscle metastasis is very rare with only few reported cases worldwide till now [2, 3]. In the majority of the cases, muscular metastasis occurred despite a complete therapeutic regimen [3, 4]. Studies have been done on the risk factors for metastasis in head and neck cancer, and consensus has been reached regarding the increased risk with the higher stage of the tumor at the initial presentation, size of the primary lesion (T4), the grade of the tumor and the site of the lesion – with the incidence being highest in the hypopharynx (60 percent), followed by the base of the tongue (53 percent) and the anterior tongue (50 percent) [1]. Much stronger correlation has been found with the clinical and pathological lymph node status of the patient. Pre-operative clinically palpable neck disease (N1-N3) with histological evidence of metastasis, extra-capsular spread, the presence of the lympho-vascular invasion and three or more positive lymph nodes are an increased risk for the development of distant metastases [5, 6, 7]. The median time of occurrence of post-therapy distant metastasis is approximately six months. The prognosis of such patients is very dismal. They often have concomitant clinically significant other sites of distant metastasis, with ninety percent mortality within 1 to 16 month (median 3 months) of the evidence of distant metastasis [8].

Our patient presented with an operable squamous cell carcinoma of the oral cavity with no evidence of distant metastasis. Wide local excision of the primary lesion with ipsilateral modified radical neck dissection was done; the histopathology report showed infiltration close to the inferior margin of the resected specimen and interdental gingival infiltration with a single level I lymph node involvement with extra-capsular spread. She was given a complete course of loco-regional adjuvant radiotherapy. The lesion recurred spontaneously four months after complete cure and she again presented with a metastatic, intraparietal, discrete hard lump of the anterior abdominal wall in the right hypochondrium and concurrent brain metastasis with no evidence of recurrence at the local site. Her condition deteriorated rapidly and she died after three months of detection of the metastasis – supporting the fact that, once diagnosed, these patients cannot be cured and are treated with palliative

intent, usually involving chemotherapy, radiotherapy, or both.

ACKNOWLEDGEMENT

Dr. Vijay Kumar & Dr. Mohd Athar for patient therapy and contribution of data for the manuscript.

References

1. Kotwall C, Sako K, Razack MS, Rao U, Bakamjian V, Shedd DP. Metastatic patterns in squamous cell cancer of the head and neck. *Am J Surg* 1987; 154: 439-442.
2. Smeets R, Grosjean MB, Heiland M, Riediger D, Maciejewski O. Distant metastases of a squamous cell carcinoma of the tongue in peripheral skeletal muscles and adjacent soft tissues. *Head & Face Medicine* 2008; 4: 7.
3. Marioni G, Blandamura S, Calgaro N, Ferraro SM, Stramare R, Staffieri A, et al. Distant muscular (gluteus maximus muscle) metastasis from laryngeal squamous cell carcinoma. *Acta Otolaryngol* 2005; 125: 678-682.
4. Renders F, Vanderheyden M, Andries E. Secondary cardiac tumour originating from laryngeal carcinoma: case report and review of the literature. *Acta Cardiol* 2005; 60: 57-60.
5. León X, Quer M, Orús C, Venegas MP, López M. Distant metastases in head and neck cancer patients who achieved loco-regional control. *Head & Neck* 2000; 22: 680-686.
6. Wenzel S, Sagowski C, Kehrl W, Metternich FU. The prognostic impact of metastatic pattern of lymph nodes in patients with oral and oropharyngeal squamous cell carcinomas. *Eur Arch Otorhinolaryngol* 2004; 261: 270-275.
7. Shingaki S, Nomura T, Takada M, Kobayashi T, Suzuki I and Nakajima T. The impact of extranodal spread of lymph node metastases in patients with oral cancer. *International Journal of Oral and Maxillofacial Surgery* 1999; 28(4): 279-284.
8. Pitman KT, Johnson JT. Skin metastases from head and neck squamous cell carcinoma: incidence and impact. *Head Neck* 1999; 21(6): 560-565.

Author Information

Rohit Kumar Singh, MS

SR, Department of Surgery, King George's Medical University

Sudhi Agarwal Kamboj, MS

SR, King George's Medical University

Bharti Ahuja, MD

Consultant Pathologist, Ama diagnostics Centre

Kuljinder Singh Sodhi, MS

SR, King George's Medical University

Nuzhat Husain, MD

Professor, Department of Pathology, King George's Medical University