

TWO CASES OF CLEAR CELL CARCINOMA FOUND IN THE JAWS

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ABSTRACT

Clear cell carcinoma rarely appears in the jaws. We here reported two possible cases of such rare carcinoma. Microscopic examination and the clinical features indicated case NO. 1 being a renal cell carcinoma metastasized to the mandible, and case NO. 2 being a primary acinic cell carcinoma originated from the minor salivary gland.

INTRODUCTION

A clear cell carcinoma is most frequently found in the kidney,^{1,2)} but rarely appears in the salivary gland as a primary tumor. Some of clear cell carcinoma originated primarily from the salivary gland are acinic cell carcinoma. It is reported that a acinic cell carcinoma appears most frequently in the parotid gland,^{3,4)} and rarely appears in the minor salivary gland.⁵⁾

CASE REPORTS

Case 1

A 61-year-old woman visited our Department in December 1967, with a chief complaint of swollen right cheek. Her noteworthy past episode was hypertension alone. Since June 1967, a small swelling has been noticed at the right part of the angle of her jaw, but ignored because of no apparent pain around the region. In November of the same year, histopathologic examination revealed that the tumor was clear cell carcinoma.

Clinical features

Her physical conditions were quite fair in general, except the presence of the tumor, which was located from the right cheek area to the angle of the jaw; the size of the tumor being approximately 6 × 4 × 4 cm, and diffuse in nature. The tumor was elastic and its border was relatively clear with no oppressive pain. Mucosa and gingiva in the oral cavity had no abnormal findings such as redness, swelling, and ulceration.

Hospital course

A hemi-mandibulectomy with total neck dissection was first scheduled immediately after admission. However, her electrocardiographic examination showed a pattern of old myocardial infarction, and consequently an administration of 15 mg./injection of Bleomycin was determined without operation. At the total dose of 75 mg., myocardial infarction recurred, and, therefore, the injection of Bleomycin was stopped. Her myocardial infarction was subsequently treated by the responsible cardiologists at Department of

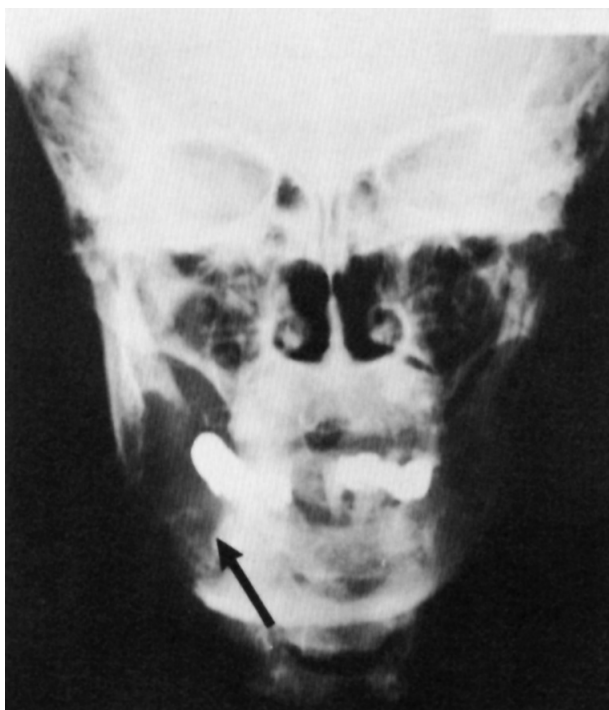


Fig. 1. Radiographic appearance showing the tumor (arrow) in the right mandible. Wide destruction of bones is observed.

Internal Medicine. After her favorable recovery from myocardial infarction, radiation therapy with Cobalt-60 at 180 rads/day was started on February 13, 1968. A total dose of 6,000 rads with 33 radiations had been accomplished by April. This therapy was effective; reducing the size of the tumor and leading her to the discharge on April 27. She was followed-up as an out-patient thereafter. On July 22, however, she was readmitted to Department of Internal Medicine because of her deteriorated general conditions with pyrexia and anemia; and transferred to our Department on August 5. As the proliferation of the pedicled tumor in the oral cavity increased, 15 mg./injection of Bleomycin was begun to be locally administered every day. At the total dose of 270 mg. of Bleomycin, the tumor in the oral cavity became necrotic and dropped off; X-ray examination clearly showed the destruction of the jaw bone (Fig. 1). Then the patient was discharged on September 15. At discharge, the swelling of the right angle of the jaw decreased appreciably, but anemia, hypoproteinemia and hypotension were noticed. Her general condition deteriorated gradually, and she was rehospitalized on February 1. Hypotension was still observed at her readmission. Despite blood transfusions and injections of vasopressor drugs, she died on February 15.

Anatomical-pathologic and histologic diagnosis

Grawitz's tumor (clear cell type)

Primary lesion: the right kidney

Metastatic lesions: the mandible (bone and soft tissue), the right adrenal gland

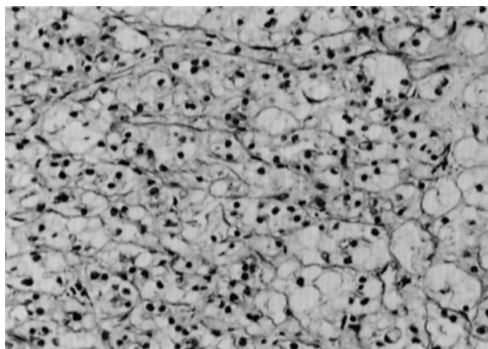


Fig. 2. Photomicrograph showing the tumor cells of the kidney, which have clear cytoplasm. Tumor cells are observed with relatively small and round nuclei and with clear walls. Cancer nest is formed; growing in solid cords. (Hematoxylin and eosin stain. $\times 300$.)

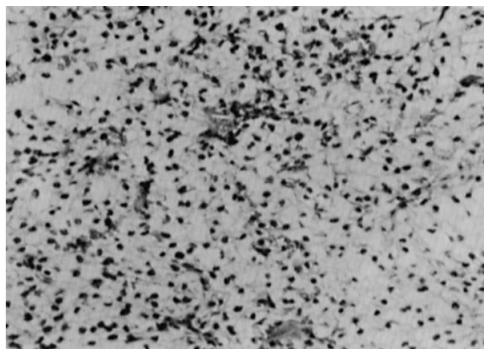


Fig. 3. Photomicrograph showing the tumor cells of the mandible which comprise clear cytoplasm. The stroma is abundant in blood capillaries. (Hematoxylin and eosin stain. $\times 300$.)

Histologic findings

The tumor cells of the kidney had clear cytoplasm. Tumor cells had relatively small and round nuclei and clear cell walls. Cancer nest was formed; growing in solid cords. Stroma was rich in blood capillaries. Histopathological examination of the tumor demonstrated clear cell carcinoma of the kidney (Fig. 2), the mandibular tumor of clear cytoplasm and the stroma with rich blood capillaries. The mandibular tumor resembled histologically to renal cell carcinoma (Fig. 3).

Case 2

A 43-Year-old woman visited our Department in February 1975, complaining of the palatal pain and speech disturbance due to the perforation of the palate. Her noteworthy past episode was the left nephrectomy in 1964. In 1963 a polyp-like swelling appeared at the middle part of the palate. Four years later, she was admitted to a hospital because of apparently increased size of the swelling. Radiation therapy was performed after the tumor resection at the hospital. She enjoyed her daily life without any physical troubles for a while, but the pain at the operated region increased with enlarged bone surface of the affected area.

Clinical features

Her physical conditions were favorable in general. At the middle part of the palate, the tissue defect was found, in which the bone-like brownish sequestrum was observed. The size of the defect was approximately 13×8 mm. The palate mucosa at the tissue defect was reddish with apparent contact pain, but no appreciable swelling. At the end of the tissue defect, a passage to the nostril was clearly observed (Fig. 4).



Fig. 4. Preoperative photograph of the plate. The tissue defect in which the bone-like brownish sequestrum is observed; the size being approximately 13×8 mm.

Hospital and postoperative course

Histopathologic examination of the tissue, which was resected on March 5, 1975, revealed it being a clear cell carcinoma; and therefore, the right kidney was devotedly investigated by the responsible urologists at our University Hospital.

On March 26 the upper jaw was resected under general anesthesia. The tumor tissue covering the soft palate and posterior bottom of the nasal septum was gray in color.

Post-operative recovery of the resected region was fairly good. The I V P of the right kidney indicated the possibility of a renal cell carcinoma, and, therefore, administration of 30 tabs/day of Provela was started from March 30. After her appreciable recovery from the operation, the patient was transferred to the Department of Urology for investigation of the kidney. Arteriographic examination denied the possibility of the renal cell carcinoma, and she was consequently discharged from the hospital on May 17. More than 3 years have passed without any relapses thereafter.

Histologic findings

The tumor cells with wide, bright cytoplasm were formed; growing in solid cords, and proliferative in nature. The nuclei were small and round without any mitosis. Stroma was relatively rich, and partly hyalinized with few blood capillaries (Fig. 5, 6).

DISCUSSION

In 1954, Castigliano and Rominger⁶⁾ reported the 176 cases of malignant tumors metastasized to the jaw by reviewing the medical literature in 1902-1953. It was stated that the 19 cases of hypernephroma were the primary carcinoma.

Clausen and Paulsen⁷⁾ reported the 97 cases of such metastatic carcinoma to the jaws. Among them, 92 cases are collected from medical literature in 1884-1961, and 5 cases from

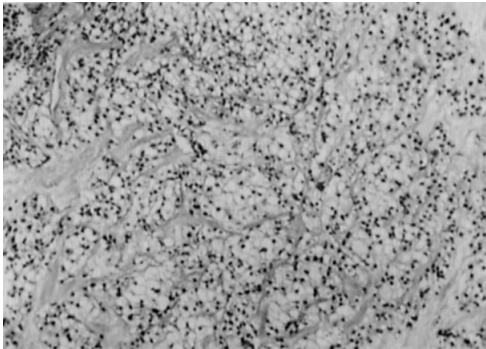


Fig. 5. Photomicrograph showing the tumor cells of the palate. The tumor cells with a wide, bright cytoplasm are growing in solid cords, and are proliferative in nature. Stroma is relatively rich, and partly hyalinized with few blood capillaries. (Hematoxylin and eosin stain. $\times 120$.)

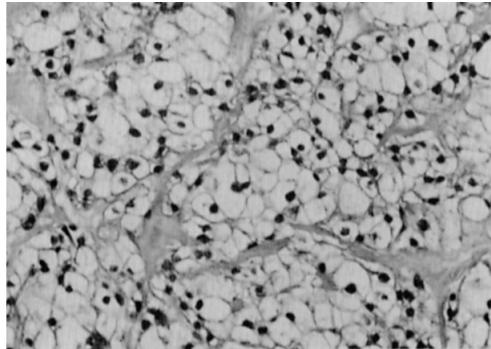


Fig. 6. The nuclei are small and round without any mitosis. (Hematoxylin and eosin stain. $\times 300$.)

their own experiences. Fifteen cases of a total series were metastatic renal cell carcinoma. According to Zegarelli et al.,⁸⁾ who reported the 15 cases of metastatic tumors to the tongue, renal cell carcinoma was not found to be a primary lesion among them. Mallet,⁹⁾ and Meyer¹⁰⁾ also reported the cases of clear cell carcinoma metastasized to the jaws.

Case NO. 1: The parotid and submaxillary glands were not involved at the initial medical examination. Cheek mucosa and gingiva were also intact. The tumor was noticed along the gradual increase of the tumor growth. This clinical course was not definite enough to believe that this is the case of clear cell carcinoma originated primarily at the salivary gland. In this case, the kidney tumor and the mandibular tumor were histologically similar. This histologic similarity led us to believe that this case was the metastatic carcinoma of the right kidney to the mandible.

Case NO. 2: The tumor was histologically clear cell carcinoma possibly originated from the salivary gland. Two facts of the tumor being noticed in the palate and of no swelling of parotid and mandibular portion initiated us to believe that the tumor could originate primarily from the minor salivary gland. The tumor was, however, histologically similar to a renal cell carcinoma. On considering her past episode of left nephrectomy as well as the histological resemblance of the tumor resected, we cannot completely deny the possibility that the tumor was the metastatic lesion of renal cell carcinoma.

SUMMARY

Two cases of clear cell carcinoma found at the jaws were presented.

Microscopic examination of the tumors and the clinical findings indicated case NO. 1 being a renal cell carcinoma metastasized to the mandible; and case NO. 2 being primary acinic cell carcinoma that originated primarily from the minor salivary gland.

ACKNOWLEDGEMENT

We wish to express our appreciation to Dr. Hiroshi Ushijima, Professor of the Department of Laboratory Medicine, Nagoya University Hospital, for his valuable advice and suggestions.

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