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Malignant Oncocytoma of the Parotid Gland: Report of a Case and Review of Literature

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We reported a case of malignant oncocytoma arising from the right parotid gland through neck metastasis. In 1992, the patient was treated by surgical removal of a lymph-node mass, diagnosed as malignant unclassified tumor. In 1995, a right parotid gland tumor and right neck lymph-node masses occurred. We suspected the patient of having a malignant tumor of the right parotid gland through neck metastasis, especially recurrence of the previous clear-cell carcinoma. In July 1995, a right-side total parotidectomy and a neck dissection were carried out. A definite diagnosis was based on histological findings of the resected tumor as malignant oncocytoma: large eosinophilic granular cells were detected, and electron-microscopically, cytoplasms of tumor cells were rich in mitochondria with no encapsulation, perineural and intravascular invasion, and metastases to the cervical lymph nodes. Additional therapy such as chemotherapy and irradiation were not applied. To date, he has had no evidence of disease for 6 years.

Key words: malignant oncocytoma; parotid gland; parotidectomy

Malignant oncocytoma is an extremely rare tumor, especially when it arises in the major salivary glands. To date, about 50 cases have been reported in the literature. Of them, most arose in the parotid gland: 34 cases of parotid gland malignant oncocytoma have been reported since the first report by Bauer and Bauer (1953). The oncocyte is a large eosinophilic granular cell which can be seen in the glandular tissue, especially in the major salivary gland.

There are no characteristic examinations except for histological examinations for this disease due to its low incidence. Histological examinations of specimens obtained by needle aspiration biopsy and surgical removal are thought to be useful for diagnosis. The most desirable therapy is a curative operation, while irradiation and chemotherapy are thought to exert poor effects. Several cases of distant metastasis to the lung, liver and brain were reported, in which patients suffered a fatal outcome (Date et al., 1999). Long-term observation is necessary in treating patients with malignant oncocytoma which spreads by distant metastasis.

Patient report

In September 1992, a 70-year-old Japanese man was referred to our clinic at the University Hospital with a 1-month history of a slowly enlarging mass in the right side of the neck. The mass was about 4×3 cm in size: we highly suspected its malignancy, and carried out a right-side neck dissection within the month. Histological examination revealed the specimen as a malignant unclassified tumor, which was highly suspected of being a clear-cell carcinoma. After surgery, we performed a detailed examination with magnetic resonance imaging (MRI) and scintigraphy, and observed no abnormal findings in general. Additional treatments such as chemotherapy or irradiation were not carried

Abbreviations: CT, computed tomography; MRI, magnetic resonance imaging

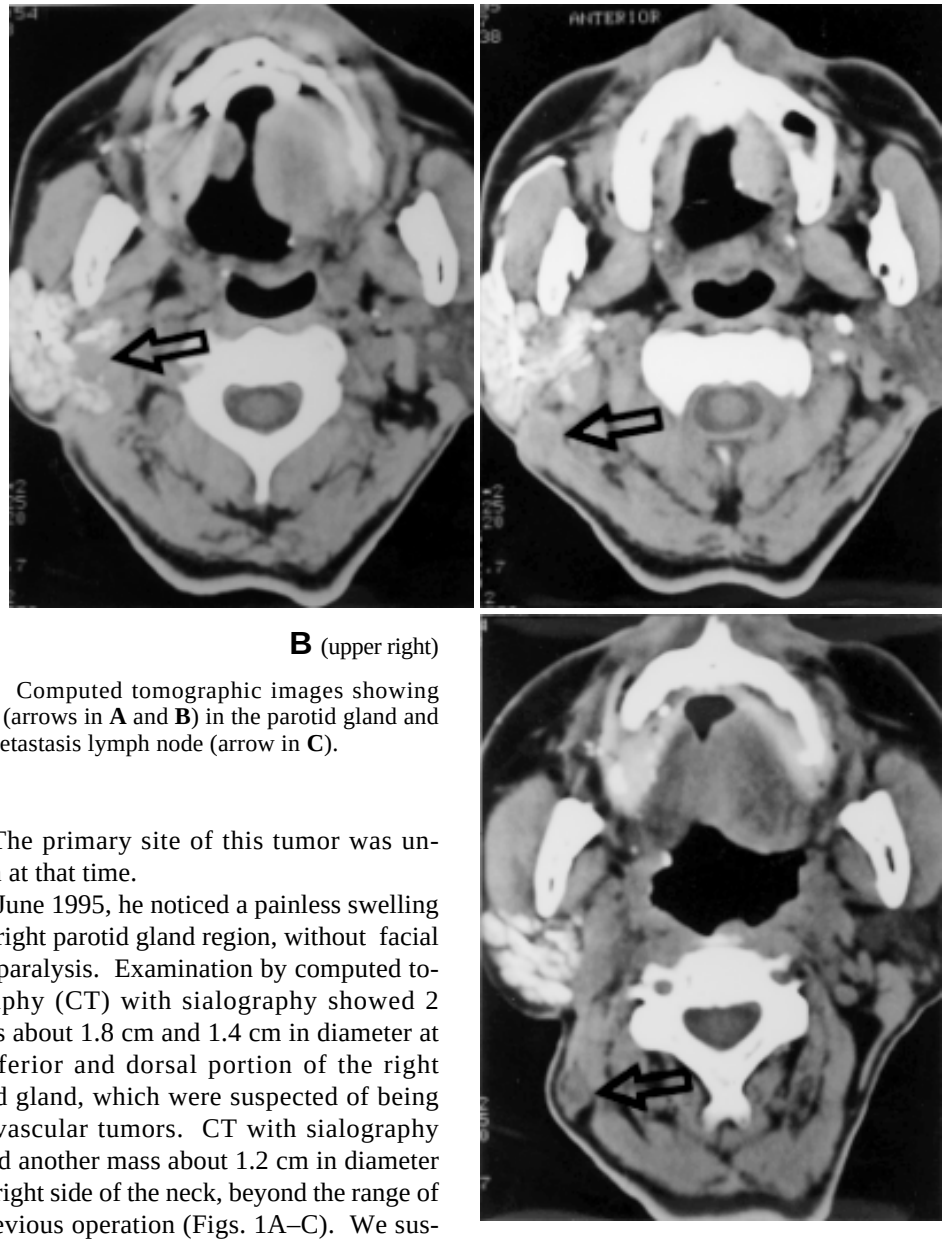

Fig. 1. Computed tomographic images showing tumors (arrows in **A** and **B**) in the parotid gland and neck metastasis lymph node (arrow in **C**).

out. The primary site of this tumor was unknown at that time.

In June 1995, he noticed a painless swelling in the right parotid gland region, without facial nerve paralysis. Examination by computed tomography (CT) with sialography showed 2 masses about 1.8 cm and 1.4 cm in diameter at the inferior and dorsal portion of the right parotid gland, which were suspected of being hypervascular tumors. CT with sialography showed another mass about 1.2 cm in diameter in the right side of the neck, beyond the range of the previous operation (Figs. 1A–C). We suspected the patient of having a malignant tumor of the right parotid gland and neck metastasis: especially, recurrence of the previous clear-cell carcinoma. In July 1995, a right-side total parotidectomy and a neck dissection were carried out under general anesthesia. The 2 extirpated tumors were elastic hard, about 2×2 cm in size. Macroscopically, the cut surface was black in color and homogenous. Microscopically, the tumor cells showed a solid, trabecular or alveolar pattern (Fig. 2). The nuclei of the tumor cells were round in shape and relatively uniform in size. No encapsulation, perineural and intravascular invasion were observed. The cytoplasm showed eosinophilia on hematoxylin and eosin stain (Fig. 3). Observed under an electron microscope, the cytoplasm of tumor cells had rich amounts of