

Metastatic renal cell carcinoma of the nasopharynx

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ABSTRACT

Introduction: Renal cell carcinoma is usually well-vascularized and often metastasizes by hematogenous routes. The clinical course of the primary tumors is often variable over time and location. Metastasis to the head and neck is relatively rare and only a single case of nasopharyngeal metastasis has been documented. **Case Report:** We report a rare case of renal cell carcinoma metastasis of the nasopharynx. Tumor resection was performed endoscopically by a transnasal approach and no recurrence was observed on follow-up. **Conclusion:** Extirpating distant solitary metastases of renal cell carcinoma is known to be critical to improving patient survival. Any history of renal cell carcinoma should be noted in patients with suspected otolaryngological lesions because renal cell carcinoma often relapses after a long latent period. To improve complaints and survival rate, resection of metastasized tumor tissue is highly recommended.

Keywords: Hypervascular endoscopic resection, Nasopharyngeal metastasis, Renal cell carcinoma, Transnasal approach

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INTRODUCTION

Renal cell carcinoma accounts for 90% of renal primary tumors. It is usually well-vascularized and often metastasizes by close contiguity, lymphatic invasion, or hematogenously. Predilection sites of metastasis include lungs (75%), lymph nodes (65%), bones (40%), and liver (40%) [1]. Metastasis to the head and neck is infrequent and, specifically, only one single case of nasopharyngeal metastasis has been documented [2]. Here we report another case of nasopharyngeal metastasis of renal cell carcinoma.

CASE REPORT

A 61-year-old male patient who had had nephrectomy for renal cell carcinoma eight years before attended our outpatient clinic with nasopharyngeal symptoms such as difficulty in breathing through the nose, bloody nasal discharge, and post-nasal drip. Endoscopic examination revealed a vascularized and irregularly shaped nasopharyngeal mass (Figure 1). The result of multiple punch biopsies identified this mass to represent clear cell carcinoma. An additional review of symptoms

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revealed no other complaints, particularly no abdominal or urinary signs or symptoms.

On a computed tomography (CT) scan and magnetic resonance imaging (MRI) scan with contrast of the head and neck, an enhancing papillary mass with no invasion of the surrounding tissue on the right side of the nasopharynx was detected (Figure 2). No other distant metastasis in the entire body was observed during image inspections.

Tumor resection was performed endoscopically by a transnasal approach in August 2013. An incision with ample safety margin was made around the tumor, and in significant bleeding that occurred on removal of the tumor was controlled with bipolar electrocautery. The incision did not reach either fossa of Rosenmüller or the pharyngeal orifice. The tumor was resected en bloc with desquamation in the layer above the periosteum. Intraoperative rapid diagnosis determined the complete removal of the tumor.

The resected tumor was pathologically diagnosed to be clear cell carcinoma (Figure 3). No additional procedure was performed, and no recurrence was observed over twenty-four months of follow-up (Figure 4A–B). The pharyngeal orifice is clearly open and no Eustachian tube dysfunction exists.

DISCUSSION

Metastatic tumors to the head and neck region from infraclavicular primaries are infrequent, and metastatic disease in the nasopharynx is rare. A careful endoscopic examination from the nasal cavities to the nasopharynx should be performed in any patient who presents with epistaxis or unilateral nasal obstruction. Metastatic tumors in the nasopharynx are difficult to differentiate from primary tumors in the same location both clinically and radiologically. Diagnosis of the tumor requires early clinical suspicion to prompt imaging and histology, which

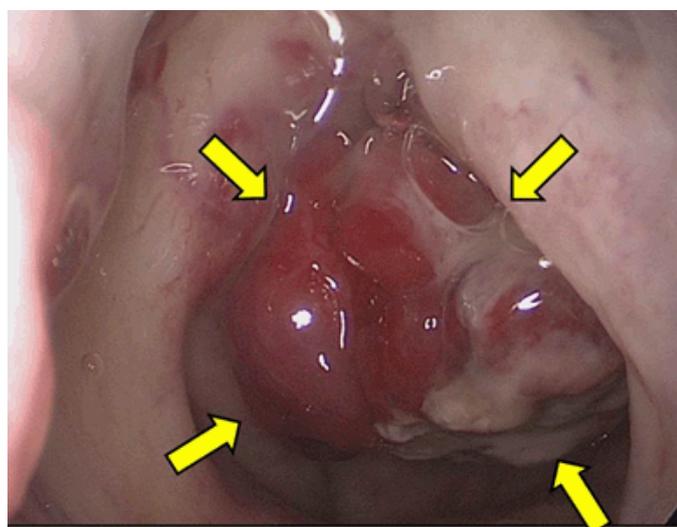


Figure 1: A vascularized and irregular shaped mass can be observed in the rear, superior wall of the nasopharynx.



Figure 2: Magnetic resonance imaging scan revealed an enhancing mass on the right side of the nasopharynx with no invasion of the surrounding tissue.

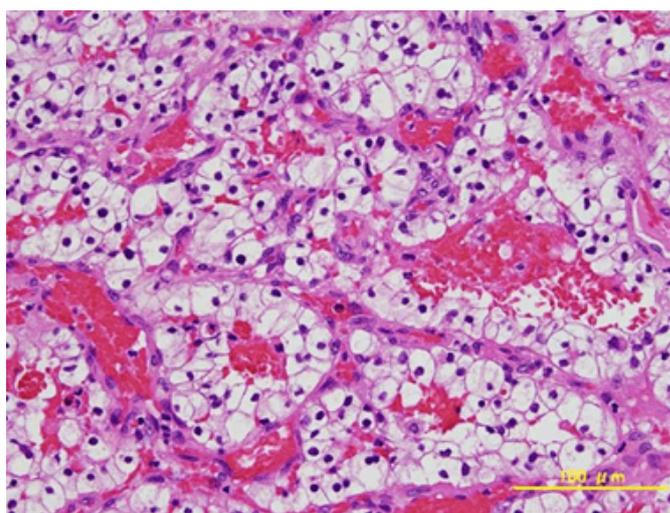


Figure 3: The neoplastic cells had clear cytoplasm with vascular stroma (H&E stain, ×400).

requires biopsy [3]. The management of nasopharyngeal tumors should be implemented with caution because in-office biopsies may result in uncontrollable hemorrhage.

Renal cell carcinoma accounts for approximately 85% of all malignant renal tumors and typically occurs in males between the ages of 30 and 60 years [4]. The clinical course of the primary tumors is often unpredictable. Their metastatic potential and patterns of metastatic spread vary [5]. Cases of metastasis from renal cell carcinoma up to 31 years following nephrectomy have been reported [6]. The most common sites of metastasis include the lungs (75%), regional lymph nodes (65%), bone (40%), and liver (40%) [1]. Approximately 15% of

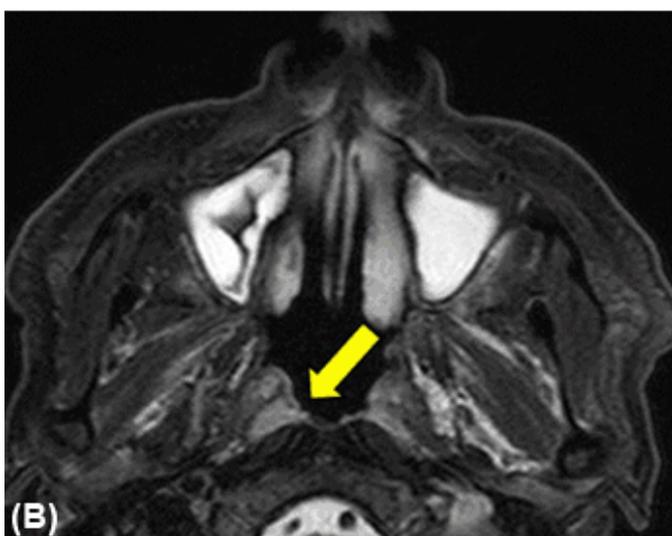
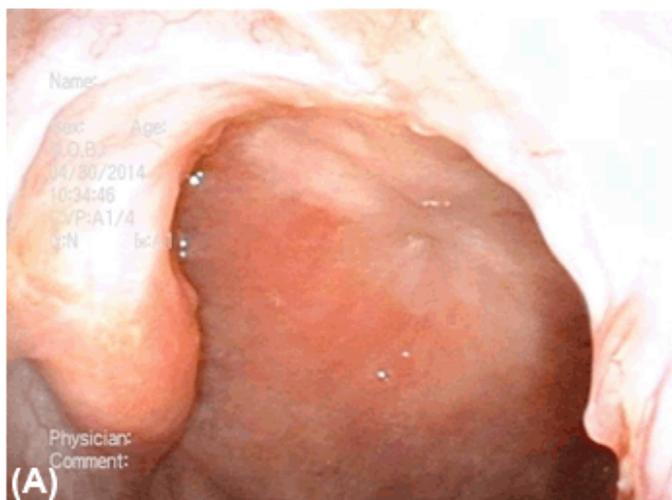


Figure 4: (A) The nasopharyngeal mucosal membrane was clear, and, (B) No recurrence was detected in magnetic resonance imaging scan one year following the surgery.

patients with renal cell carcinoma have extracranial head and neck metastases, but to date, only a single case of nasopharyngeal metastasis has been documented [2]. Renal cell carcinomas are usually hypervascularized and the mechanism by which a renal cell carcinoma reaches the head and neck lesion is mainly by hematogenous spread [5] including spread via Batson's plexus, a valveless, venous system extending from the skull to the sacrum allowing the tumor emboli to bypass the pulmonary venous system with minimal resistance. This results in the spread of metastasis to the head and neck region in the absence of obvious lung lesions [7].

The management of these patients with metastatic renal carcinoma should be individualized on the basis of the presence or absence of metastasis to different sites and the patient's general health. Extirpating distant single metastases of renal cell carcinoma significantly improves survival rates [8]. In addition, bleeding problems, resulting from the rich blood flow characteristic of renal cell carcinoma, could impact the patient's quality of life, as in this case. Though significant bleeding was

not observed during the resection in the present case, preoperative angiography with embolization may be warranted to prevent bleeding during surgery [9]. A transnasal endoscopic approach is one of the several ways to approach the nasopharynx. For smaller, localized diseases at the nasopharyngeal region, endoscopic resection is highly recommended because it is the minimally invasive way.

CONCLUSION

In conclusion, a meticulous examination of patients with a history of renal carcinoma after consideration of metastasis is crucial, because renal carcinomas have unpredictable metastasizing patterns, even after long periods of latency. Renal cell carcinoma rarely metastasized to the nasopharynx. However, the clinical course of renal cell carcinoma is often unpredictable. To mitigate the symptoms and improve the survival rate, radical excision is the preferred method if the tumor can be resected without unacceptable functional sequelae. For smaller, localized metastasis in the nasopharyngeal region, trans-nasal endoscopic resection is highly recommended due to minimal invasiveness.

Author Contributions

Kazuhiko Minami – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Masashi Sugawara – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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