

# A Case of Extrahepatic Metastasis of Hepatocellular Carcinoma in the Nasal Septum managed with Endoscopic Resection

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## ABSTRACT

Metastasis of hepatocellular carcinoma (HCC) in the nasal septum is an extremely rare condition. The proper management and the role of surgical intervention are still controversial and there is no evidence-based guideline for this specific condition. The authors of the present study report a case of HCC with sinonasal metastasis, managed by surgery to relieve nasal obstruction and frequent epistaxis. Complete removal of the tumor via endoscopic surgery was performed and the pathology was reported to be consistent with metastatic HCC. No additional treatment modality was considered for the septal lesion. During the 8-month postoperative period, the patient remained alive and satisfied with comfortable nasal breathing. The present case report stresses the importance of interdisciplinary collaboration. Proper consultation between surgeon and oncologist may lead to improved quality of life, even when the patient is in the terminal stage of HCC.

**KEY WORDS** : Septum · Nasal Cavity · Metastasis · Hepatocellular Carcinoma.

## INTRODUCTION

Extrahepatic metastasis of HCC is common in the late stage of the disease.<sup>1) 2)</sup> In an autopsy series of HCC patients, metastatic lesions were present in about 50%.<sup>3)</sup> The frequent sites of metastasis were abdominal lymph nodes, lung, bone, and adrenal gland.<sup>1) 3)</sup> However, HCC with sinonasal metastasis is known to be extremely rare. In the English literature, only eighteen cases have been reported.<sup>4) 5)</sup> More specifically, our case is the first case to report on the surgical treatment of metastatic HCC for conservative purpose.

## CASE

A 49-year-old man, who had been suffering from HCC for 13 months, visited our department with the chief complaint of frequent epistaxis and nasal obstruction. He had undergone transcatheter arterial embolization several times for the treatment of HCC. However, the multiple

nodules still remained in the both lobes of liver after the embolizations. In addition, metastatic lesions in the right heel and in nasal septum had been found just before the first visit to our clinic. He had no history of preexisting sinonasal diseases or surgeries.

During the nasal endoscopic examination, a soft, friable mass with hypervascularization was visible in the right side of nasal septum (Fig. 1). Paranasal sinus computed tomography (CT) showed a 1.2X1cm sized weakly enhancing mass located at the right anterior nasal cavity. The obstruction of nasal cavity was noted due to the lateral extension of the lesion towards the nasal vestibule. The depth of lesion was confined to the septal mucosa and did not invade the cartilaginous and bony septum (Fig. 2A). On T1 gadolinium enhanced magnetic resonance images, an ill-defined mass showed high signal intensity with heterogeneous enhancement (Fig. 2B and 2C). Preoperatively, endoscopic punch biopsy was performed for the pathologic confirmation in out-patient clinic. The pathologist reported that tumor cells with nuclear pleomorphism are seen and they are arranged in a thick trabecular pattern, which were consistent with metastatic HCC (Fig. 3).

We planned and performed the surgery for conservative intent to relieve the patient's symptoms. Under the general anesthesia, the patient underwent endoscopic surgical removal of the tumor. The specimen obtained from the surgery was also reported to be metastatic HCC and all the

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resection margins were free from tumor. After diagnosis of the sinonasal metastasis, he was also treated with palliative radiotherapy to the another metastatic site - right heel and multiple hepatic nodules.

Currently, surgical wound on nasal septum showed complete healing without any evidence of remnant or recurrent lesion. And, the patient is alive with the disease for post-operative 8 months (Fig. 4).

## DISCUSSION

Recent advances in both diagnosis and treatment of HCC have markedly improved the prognosis of the disease.<sup>6)</sup> With the development of various imaging techniques, extrahepatic metastases from HCC have been

detected more frequently. Metastases of HCC to adjacent structures are known to be frequent, while distant metastases are not. Particularly, sinonasal metastasis is reported to be extremely rare.<sup>1)6)7)</sup> Several hematogenous routes referring the head and neck metastasis from HCC had been proposed. The one possible route is the spread from the caval venous system through the pulmonary circulation and then into arterial vessels feeding the head and neck. Another possibility is the retrograde spread by the prevertebral and vertebral venous plexus.<sup>3) 8)</sup> According to the previous reports, sinonasal metastases were identified in the maxillary sinus (6 cases), ethmoid sinus (6), sphenoid sinus (4), frontal sinus (1) and septum (1). Therefore, our case is the second case to report nasal septal metastasis of HCC.

About half of the cases of metastatic HCC to the sinonasal tract are associated with epistaxis as our case. Frequent nasal bleeding from the metastatic lesion is known to be secondary as the common nature of malignant tumor is hypervascularity. In addition, in the case of HCC, the coagulopathy associated with underlying chronic liver disease can be a definite cause of frequent epistaxis.<sup>9)</sup> Other than epistaxis, nasal obstruction, headache and ophthalmic symptoms, e.g., diplopia and proptosis according to the site of the tumor involved were complained by the patients.

There are many limitations in managing extrahepatic HCC, for most of the metastatic lesions are multiple and some treatment options may produce troublesome side effects due to patient's liver function. Various treatments for the sinonasal metastatic lesions were reported, including palliative radiotherapy, systemic chemotherapy and transcatheter embolization to control nasal bleeding.<sup>3)4)8)</sup> However, surgical intervention of metastatic septal lesion

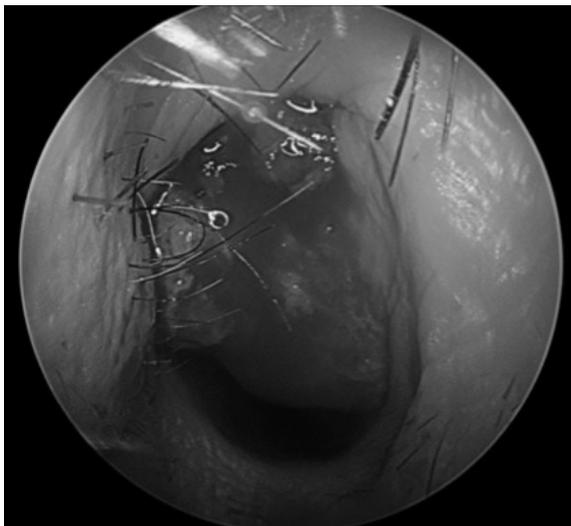


Fig. 1. The endoscopic finding of metastatic hepatocellular carcinoma in right side of nasal septum.

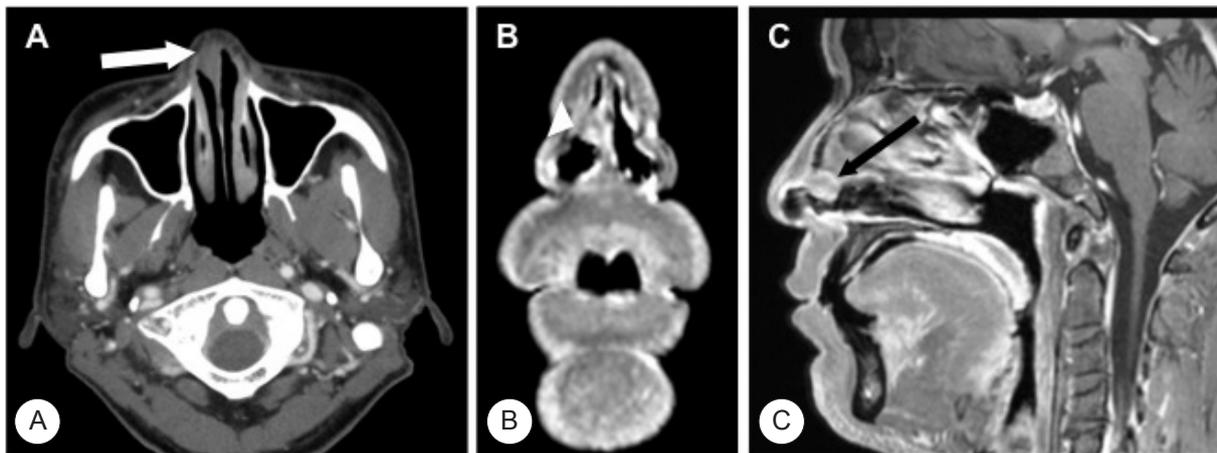
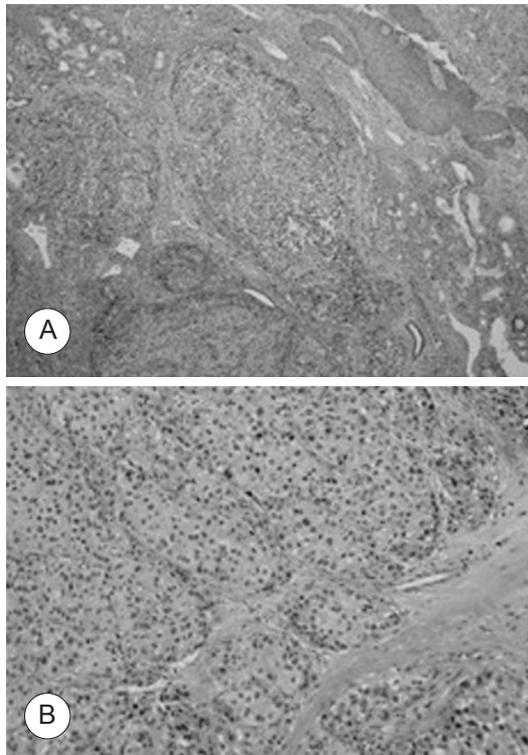


Fig. 2. (A) A 1.2cm sized irregular shaped mass without enhancement localized to unilateral nasal cavity was noted in axial CT scan. (white arrow) (B & C) T1-weighted gadolinium enhanced MR image shows heterogeneous enhancement with low signal intensity at central portion of the lesion. (white arrow-head & black arrow)



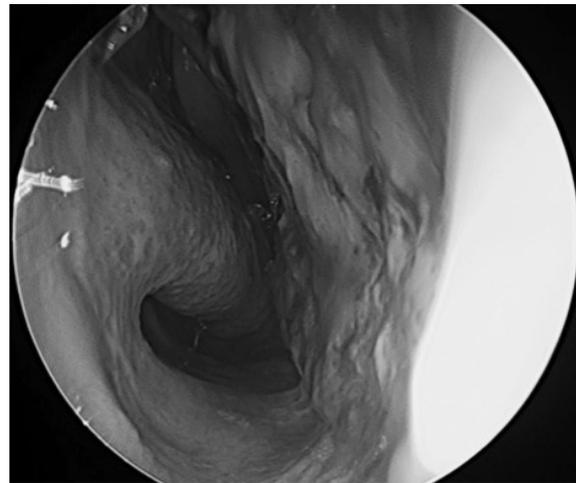
**Fig. 3.** x30(A), x100(B) Photomicrograph of the specimen from the tumor in the right nasal septum. Tumor cells with nuclear pleomorphism are seen and they are arranged in a thick trabecular pattern, consistent with metastatic HCC.

for conservative intent had not been attempted and reported previously. In order to control the patient symptoms definitely, the surgical removal was considered in preference to all the other treatment modalities in our case.

Most extrahepatic HCC occurs in patients with an advanced intrahepatic stage of tumor (stage IV<sub>A</sub>).<sup>1)</sup> Also, metastasis to the sinonasal region is usually associated with advanced disease and early mortality.<sup>10) 11)</sup> According to the review of the literatures, the mean survival of patients ranged from 4 weeks to 26 months after the identification of sinonasal metastasis.<sup>4) 5) 9)</sup> Despite the fact that the patients do not usually survive for several years after the manifestation of sinonasal metastasis, the treatment of metastatic HCC should be selected on an individual basis and the purpose of treatment. We can suggest that surgical management of the sinonasal symptoms caused by metastatic HCC may be an alternative choice for the treatment.

**저자역할(Author Contributions)**

황치상, 김창훈은 본 연구에서 모든 자료에 접근할 수 있으며 자료의 완전성과 자료 분석의 정확성에 책임을 지고 있습니다. 연구 기획: 황치상, 김유석. 자료 해석 및 분석: 황치상, 구용철, 이동원. 논문초안: 황치상. 논문수정: 황치상, 김유석, 김창훈. 연구 총괄: 김창훈.



**Fig. 4.** The postoperative endoscopic finding after 4 weeks . Septal mucosa is intact without any evidence of remnant or recurred HCC.

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