

## Case Report

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# Nasopharyngeal mucoepidermoid carcinoma: a rare tumor in nasopharynx

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## ABSTRACT

Mucoepidermoid carcinoma (MEC) is a malignant epithelial salivary gland neoplasm which consists of a mixture of mucin-producing columnar cells, epidermoid (squamous) cells and polygonal intermediate cells. Salivary gland-type carcinomas are extremely rare to be found in the nasopharynx. A 46-year-old lady presented with bilateral progressive nasal blockage and occasional epistaxis for 3 years. However, there was no neck swelling. Nasoendoscopy revealed a huge nasopharyngeal mass. Tissue biopsy in clinic setting reported of inverted papilloma. Computed tomography shows large irregular heterogenously enhancing mass in nasopharynx. Posterior septectomy was done for the access and endoscopic excision of nasopharyngeal tumor was performed. Histopathological examination confirmed the tumor is mucoepidermoid carcinoma. Postoperative adjuvant concurrent chemoradiotherapy with total of 66 Gy was commenced in view of concern of possible residual microscopic disease. Nasopharynx is an uncommon site for MEC. MEC patients seldom has enlarged neck node at presentation. Nasopharyngeal salivary gland-type carcinomas does not commonly cause cranial nerve palsy compared to nasopharyngeal carcinoma (NPC). In cases with huge nasopharyngeal mass without neck nodes and cranial nerves involvement, MEC can be a differential diagnosis. Surgical removal of gross disease and concurrent chemoradiotherapy as an adjuvant treatment for likely residual microscopic disease is the standard treatment for nasopharyngeal mucoepidermoid carcinoma.

**Keywords:** Mucoepidermoid carcinoma, Nasopharynx, Nasoendoscopy

## INTRODUCTION

According to WHO histological classification of tumors of the nasopharynx, nasopharyngeal malignant epithelial tumors are classified as naso-pharyngeal carcinoma, nasopharyngeal papillary adeno-carcinoma and salivary gland-type carcinomas.<sup>1</sup> Salivary gland-type carcinomas are extremely rare to be found in the nasopharynx. Men are affected more frequent than women nearly three times. The age range of reported cases is from 15-74 years with a median age of 50 years.<sup>1</sup> Adenoid cystic carcinoma is the most common type of nasopharyngeal salivary gland-type carcinoma, followed by mucoepidermoid carcinoma (MEC) and adenocarcinoma not otherwise specified.<sup>1</sup>

MEC is a malignant epithelial salivary gland neoplasm which consists of a mixture of mucin-producing columnar cells, epidermoid (squamous) cells and polygonal intermediate cells. MEC divided into low, intermediate and high grade.

According to Garden et al, 25 out of 160 patients with malignant minor salivary gland tumor are MEC and this is 15.6% of all malignant minor salivary gland tumor.<sup>2</sup> Only 1 patient out of 160 patients, the primary site of malignant minor salivary gland is arise from nasopharynx and this is 0.6% of all malignant minor salivary gland tumor.<sup>2</sup> Therefore nasopharyngeal MEC is extremely rare. There is only few case reports of nasopharyngeal MEC reported in the English literature.

## CASE REPORT

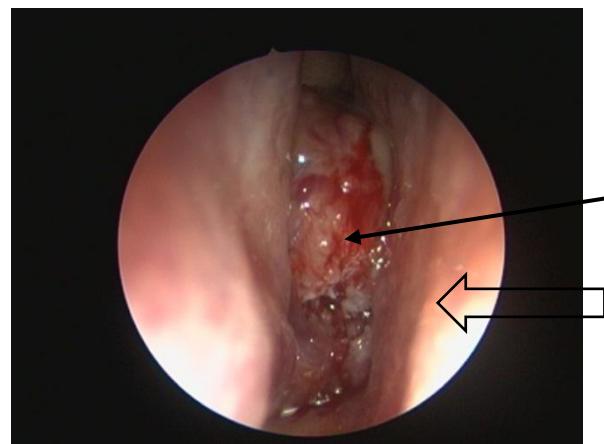
A 46 year-old lady presented with bilateral progressive nasal blockage and occasional epistaxis for 3 years that was associated with hyposmia. Episode of epistaxis was always controllable with Trotter's method. However, there was no neck swelling and she did not report any hearing loss. On examination, there are no cervical lymph nodes palpable. All cranial nerves are intact. Otoscopy shows bilateral normal intact tympanic membranes. Tuning fork test concluded normal hearing bilaterally. 0 degree nasoendoscope revealed huge nasopharyngeal mass occupying entire nasopharynx and obstructing both choanae. The mass was papillomatous in appearance and friable (Figure 1 and 2). Endoscopic nasopharyngeal biopsy in clinic setting showed inverted papilloma. Computerized tomography of paranasal sinus and neck was done. Large irregular heterogeneously enhancing mass in nasopharynx, measuring  $3.7 \times 3.5 \times 4.0$  cm (W $\times$ AP $\times$ CC), extending to both choanae (Figure 3). There is bilateral subcentimeter lymph nodes at level II, largest diameter measuring 0.6 cm.

Posterior septectomy was done for the ease of surgical access of tumor extirpation. Endoscopic excision of nasopharyngeal tumor was done. Intraoperative, the tumor was microdebrided to the base and noted to be originated from site of right fossa of Rosenmüller. The tumor is hard in consistency and fibrous-like.

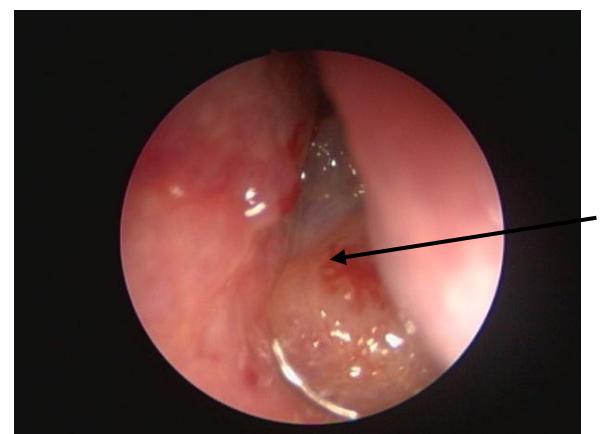
Histopathological report of the resected tumor confirmed high grade mucoepidermoid carcinoma. Post-operative 1 month repeated nasoendoscopy, there is not visible tumor in nasopharynx (Figure 4). Postoperative adjuvant concurrent chemoradiotherapy (CCRT) was given with a total 66 Gy in 30 fractions. We repeated nasoendoscopy for her during follow up in clinic post CCRT 6 weeks. Nasoendoscopy showed no residual tumor in nasopharynx. She is well except experience minor dry mouth as the side effect of radiotherapy.

## DISCUSSION

The nasopharynx is a common site for malignant tumours like nasopharyngeal carcinoma (NPC) and lymphoma. However, it is an uncommon site for MEC. In the Malaysian population, nasopharyngeal carcinoma ranks the commonest head and neck malignancy, typically presenting with painless neck mass, nasal blockage, epistaxis and reduced hearing. MEC patients on the other hand seldom has enlarged neck node at presentation (30%).<sup>3</sup> Nasoendoscopy noted a huge nasopharyngeal mass occupying the whole nasopharynx and obstructing bilateral choanae which is a common finding in nasopharyngeal carcinoma. Nasopharyngeal salivary gland-type carcinomas does not commonly cause cranial nerve palsy compared to NPC. Our patient also did not present with any cranial nerve palsy. NPC is notorious for cranial nerve involvement, particularly the trigeminal nerve by virtue of skull base involvement.



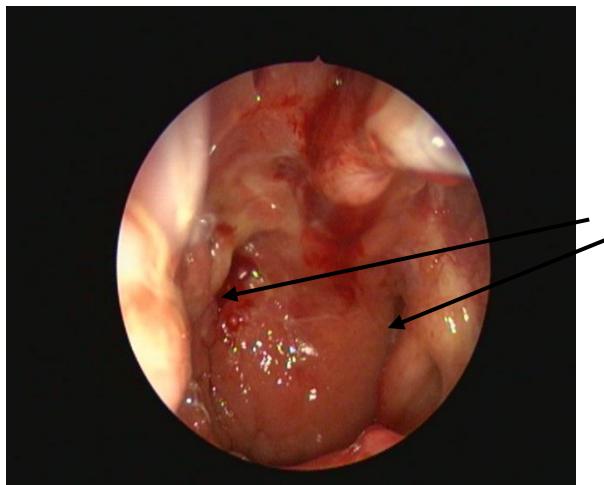
**Figure 1: Endoscopic view of right nostril, showing a nasopharyngeal mass (solid arrow) extending to the posterior choana. Hollow arrow showing nasal septum.**



**Figure 2: Endoscopic view of left nostril, showing a nasopharyngeal mass (solid arrow) filling up the posterior choana.**



**Figure 3: CT paranasal sinus axial view soft tissue setting: mass (solid arrow) seen in nasopharynx till bilateral choana.**



**Figure 4: Post endoscopic tumor excision and posterior septectomy 1 month, no visible tumor at nasopharynx. Solid arrows showing bilateral fossa of Rosenmüller.**

Punch biopsy taken in clinic setting showed inverted papilloma and no evidence of malignancy. Patient was scheduled for endoscopic tumor excision. During the operation, posterior septectomy was done in order to get access to excise the huge nasopharyngeal mass.

Histopathology of the tumor showed that it is a high grade mucoepidermoid carcinoma. Postoperative adjuvant chemoradiotherapy was given with a total 66 Gy in 30 fractions. Garden et al suggested that surgical removal of gross disease with function preservation and radiation therapy as an adjuvant treatment for likely residual microscopic disease as the standard treatment in patients with minor salivary gland malignancies.<sup>2</sup> For our patient, she responded well to the surgical removal of tumor with adjuvant CCRT.

## CONCLUSION

In cases with huge nasopharyngeal mass without neck nodes and cranial nerves involvement, MEC can be a differential diagnosis. Posterior septectomy is helpful to provide access for endoscopic tumor excision of a nasopharyngeal mass. Surgical removal of gross disease and concurrent chemoradiotherapy as an adjuvant treatment for likely residual microscopic disease is the standard treatment for nasopharyngeal mucoepidermoid carcinoma.

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