

# Respiratory Epithelial Adenomatous Hamartoma (REAH): A Rare Case

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## ABSTRACT

Respiratory epithelial adenomatous hamartoma (REAH) is a benign lesion having abnormal proliferation of respiratory epithelium of submucosal glands of nasal cavity. This mucosal proliferation leads into formation of polypoidal mass which simulates a nasal polyp. REAH are differentiated from other nasal mass by histopathology. Here we have described a case of a 45 year old male who suffered from chronic benign nasal polypoidal mass and had undergone imaging. Patient underwent complete resection of mass with preservation of adjacent structures. Post operative histopathology reported it as REAH with no evidence of recurrence after 2 years of follow up.

**Keywords:** Benign, Non- Neoplastic, Polypoidal Mass, Respiratory Epithelial Adenomatous Hamartoma.

## INTRODUCTION

Respiratory epithelial adenoma is a focal, non-neoplastic lesion which was first described by Wenig and Heffner. Wherein abnormal proliferation of respiratory epithelium of submucosal glands leads to polypoidal growth.<sup>1,2,3</sup> Hamartoma means excessive proliferation of one or more cells of specific tissue which is often seen in lung and abdominal organs like liver, kidney, spleen and intestine.<sup>4</sup> Wenig said that, it is a subgroup of hamartoma in the nasal cavity or nasopharynx & coined it as Respiratory epithelial adenomatous hamartoma (REAH).<sup>1</sup>

Etiology is unknown but some studies suggested that REAH may be originated from chronic inflammation or hypertrophic mucosal polyp formation in the respiratory epithelium.<sup>1,3,5</sup> Hamartoma is possibly considered to be either a defective tissue development during fetal growth or postnatal disturbance of immature tissue.<sup>1</sup> There is evidence showing that other benign tumours like inverted papilloma and fibrous tumour are associated with REAH.<sup>1,6</sup> This association may explain origin of REAH from inflammatory nasal mucosa.

REAH is usually unilateral with no side predilection but some studies show it is mainly arising from nasal septum.<sup>1,5,7</sup> While REAH in sino-nasal pathway ranges from high to low preference in nasal cavity around the septum, lateral wall, middle meatus, inferior turbinate and rarely in the maxillary and ethmoid sinus.<sup>4</sup>

## CASE REPORT

We are reporting a case of a 45 year old male. Presenting with 8 months history of right sided nasal obstruction, nasal stuffiness, recurrent rhinitis, loss of nasal twang of voice.

No history of nasal bleed. On diagnostic nasal endoscopy, a firm, pale, polypoidal, non-tender, non-bleeding mass was visualized extending from nasal pyramid to choana. It was completely obliterating the right nasal cavity with deviation of septum to opposite side. On cold spatula test, air blast was absent on right side.

Patient was previously treated with systemic and local steroids because of its appearance of an infected nasal polyp. No evidence of reduction in size noticed after use of steroids. Computed tomography scan of paranasal sinuses (PNS) showed a large soft tissue mass occupying right nasal cavity with mass effect causing deviated nasal septum to left side (Fig 1). No evidence of bony destruction. On contrast scan there was no evidence of vascularity.

With all clinico-radiological findings; patient was diagnosed having a benign polypoidal lesion and hence planned for endoscopic resection. As tumour was originating from posterior 1/3<sup>rd</sup> of middle turbinate, partial resection of middle turbinate was done. Benign tumour was excised in toto and the specimen was consistent with pre-operative findings. Specimen sent for histopathological examination, and the result was reported as a REAH (Fig: 2). No evidence of recurrence in 2year follow-up.

## DISCUSSION

Respiratory epithelial adenomatous hamartoma is a localised expansile, benign, non- vascular lesion. It arising from proliferation of respiratory epithelium of glandular tissue of nasal cavity. S.Mulazimoglu et al, Malinvaud D et al study showed REAH is also arising from maxillary sinus, ethmoid sinus which is rare site.<sup>8,9</sup> It mostly affects male rather than female with a ratio of 7:1. It is usually seen in adults of 30-70 years of age.<sup>1,3</sup> Usually REAH is unilateral but Shanbag, Raghunath et al. and Cao, ZhiWei et al study shows bilateral

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**Figure-1:** CT Scan of PNS soft tissue view: S/o Polyp mass arising from middle turbinate mass in right nasal cavity with deviated nasal septum



**Figure-2:** Excised specimen in toto: 11 x 5 cm, pale, irregular-smooth surface, fleshy and rubbery consistency with (star) anterior infective part

appearance.<sup>10,11</sup> Nasal polyp, inverted papilloma and low grade adenocarcinoma are the differential diagnosis.<sup>1,6</sup> Clinically all may have similar morphology, but differ by histopathology and correlation between clinico-pathology gives definitive diagnosis. A decision regarding complete surgical excision of the lesion gave a fruitful result. Chances of residual or recurrence are rare after complete excision. No evidence seen for malignant transformation.<sup>1,3,7</sup> Prognosis is good due to its benign and non-destructive nature of REAH.<sup>12</sup>

## CONCLUSION

Even though there is rarity in occurrence of REAH, ENT surgeon as well pathologist should be aware of this non-neoplastic lesion and should consider for differential diagnosis of sino-nasal mass. Preoperative endoscopic biopsy is helpful in doubtful cases for definitive diagnosis. By noticing REAH lesion's behavior clinico-radiologically we can avoid unnecessary radical excision and thus can prevent damage to adjacent structures.

## Consent

Consent from patient for participation and publication has

been taken for study purpose.

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