

# Benign Teratoma of the Nasal Cavity

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## Summary

A teratoma is a true neoplasm composed of an assortment of tissue often alien to the site from it arises. Teratomas of the head and neck are exceedingly rare and usually present in the neonatal period. Most of these are found in the cervical region and nasopharynx. Though most tumors are benign, they are often malignant with regards to the location. Here we present a rare case of benign teratoma arising from the nasal septum and presenting for the first time in a young adult. Appropriate literature is reviewed.

**Key Words:** Benign teratoma, Head and Neck, Nasal cavity

## Case History

The patient was a 19-year-old Indian male hospital sanitary worker who presented to the ENT clinic with complaint of right nasal obstruction off and on since childhood. He also complained of rhinorrhea with occasional foul smelling yellowish nasal discharge, postnatal drip and chronic cough. There was no history of facial pain, cheek numbness, diplopia or reduced visual acuity.

On examination there was no external deformity of the face or the nasal framework. There was marked deviation of the nasal septum to the left and the right nasal cavity was filled with a polypoidal mass. The rest of the clinical examination was essentially normal.

Biopsy of the polyp was performed and was reported as consistent with lipoma showing degenerative changes. CT scan showed a large heterogeneous mass occupying the right nasal cavity with erosion of the nasal septum (Figure 1 and 2). The nasopharynx looked normal. Based on these findings, a provisional diagnosis of teratoma was concluded.

The lesion was approached via right lateral rhinotomy. There was a multilobulated mass with a wide base arising from the right nasal septum. There was no lateral encroachment and the cribriform plate was not involved. Both the right middle and inferior turbinates were hypoplastic due to the pressure effect of the lesion. The lesion was completely removed. Postoperatively, the patient recovered well. A large septal perforation was evident post surgery. The patient has been on our follow-up for the last three years and has remained symptom free with no recurrence.

Histopathology of the lesion showed the tumour to be composed mainly of adipose tissue with islands of collagen, bone, cartilage and glial-like tissue. No immature elements were noted. Hence, it was concluded to be a benign teratoma.

## Discussion

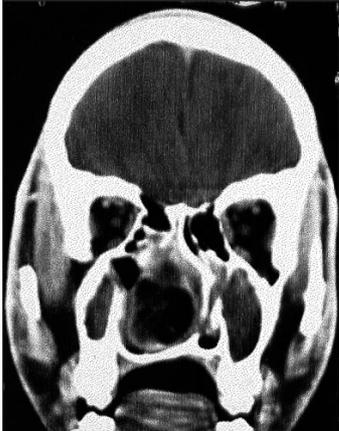
Teratomas are rare developmental tumors comprising elements from all three germinal layers. The majority of congenital teratomas are found in the sacrococcygeal

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region and the head and neck region only accounts for 5% of all neonatal teratomas<sup>1</sup>. Head and neck teratomas are most commonly found in the cervical region, followed by the nasopharynx<sup>2</sup>. Head and neck teratomas are often benign, although malignant lesions have been infrequently described. Malignancy is not equated with the degree of immaturity of the tissue elements. The major cause of morbidity and mortality is from the size and location of the teratoma, usually causing airway obstruction and respiratory distress.

There are several theories regarding the histogenesis of teratoma formation. The most popular theory speculates that teratomas arise from totipotential embryonic tissues that are somehow displaced during ontogeny. For head and neck teratomas, the theory postulates that embryonic tissues in proximity to the



**Fig. 1: Axial CT of the paranasal sinus showing a heterogenous mass in the right nasal cavity.**

primitive streak and notochord somehow lose its governing influence over the totipotential cells, allowing unorganised differentiation. Benign teratomas seldom present outside the neonatal age group. The only reported case in literature is that of a 25-year-old lady who presented with nasopharyngeal teratomas<sup>3</sup>. She was successfully treated surgically but the lesion reoccurred after 34 years! There have also been reports of teratocarcinoma involving the nasal cavity and ethmoid sinus in elderly patients<sup>4</sup>.

In this patient, the teratoma was found to be arising from the nasal septum and was successfully excised. After 3 years of follow-up, there has been no evidence of local recurrence. It could be possible that this lesion was present at birth but had remained undetected because of the patient's symptoms that may have been dismissed as sinusitis without proper investigation. Though malignant degeneration has been suggested as a complication of untreated benign teratomas, no such features were found in this case.

Routine follow-up is mandatory in all head and neck teratomas despite its mostly benign nature. Teratoma recurrence can be detected by asymptomatic elevations of Alfa fetoprotein (AFP) levels after resection of benign lesion<sup>5</sup>. Some authors recommend serial measurements of serum AFP for this purpose.

In conclusion, benign teratomas of the head and neck usually present in the neonatal period with respiratory embarrassment of varying degrees. Surgical excision is usually curative. However, as demonstrated in this case, there remains the possibility of small minimally symptomatic lesions going undetected till adulthood.

## References

1. Azizkhan RG, Haase GM, Applebaum H, et al. Diagnosis, management, and outcome of cervicofacial teratomas in neonates: A Children's Cancer Group Study. *J Pediatr Surg* 1995; 30: 312-6.
2. Ward RF and April MM. Teratomas of the head and neck. *Otolaryngology Clin North Am* 1989; 22: 621-9.
3. Sigal R, Ousehal A, Pharaboz Ch, Leridant A-M, Bosq J, Vanel D. Nasopharyngeal teratomas: CT and MRI findings. *European Radiology* 1996; 7: 96-98.
4. Fukuoka K, Hirokawa M, Shimizu M, Shirabe T, Manabe T, Hirai M, Akisada T. Teratocarcinoma of the nasal cavity. Report of a case showing favourable prognosis. *APMIS* Sept 2000; 108(9): 553-7.
5. Billmire DF and Grofeld JL. Teratomas in childhood: Analysis of 142 cases. *J Pediatr Surg* 1886; 21: 548-51.