

Glial Heterotopia Presenting as Lesion at Bridge of Nose, An Exemplary Case of Displacement of Neuroglial Tissue at Extracranial Sites

G Tiwary¹, K Upadhyay², Kartikeya U² and PK Upadhyay^{3*}

¹Director Diagnostic Branches at House of Diagnostics and Neuropathologist, Delhi, India

²Intern, MAMC Affiliated to University of Delhi and JSS Medical College Affiliated to JSS University of Higher Education Mysuru, India

³Head of Neurosurgery and Associate Professor, Institute of Human Behavior and Allied Sciences, Affiliated Academic Programme to University of Delhi, India

*Corresponding Author: PK Upadhyay, Head of Neurosurgery and Associate Professor, Delhi, India.

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Abstract

Presentation at the bridge and root of nose some times be a nasal glioma. One such case is presented so as to make nasal surgeon, general surgeon aware of this neurosurgical entity.

Keywords: Nasal Glial Heterotopia; Infant; Nasal Glioma

Introduction

Nasal glioma, also known as glial heterotopia or the occurrence of isolated non - teratomatous glial tissue is a rare and benign congenital defect [1-4]. The developmental disease is diagnosed usually at the time of birth or in infancy and requires early treatment to prevent facial deformations [5-9]. We describe one such case of brain heterotopia in form of nasal glioma here that was investigated, diagnosed and treated at the department of Neurosurgery at our institution.

We summarize on the embryological developmental theory as the causative and abnormal heterotopias are the placement of neuroglial tissue in any other extracranial sites [3,4,9-11].

Nasal glial heterotopias can be of three types-extranasal, intranasal and mixed. Root of the nose is the most common location.

Digital heterotopias are very rare anomalies though with an incidence of 1 case per 20,000-40,000 live births [2,4,7,11-13]. We describe a case of an 18 year old with a congenital displaced mass located at the bridge/root of the nasal structure.

Material and Methods

An 18 year old man presented with swelling and pain at root of nose since infancy (Photo 1). Parents/attendant kept ignoring advised surgical treatment due to apprehension of complication and danger to life.

NCCT scan investigation showed no evidence of any cranial extension of the deformity/lesion (Photo 2). The swelling/lump was excised completely (Photo 3).

On histopathological examination [13,14] (Photo 4), it showed brain glial cells with predominantly astrocytes in a back drop

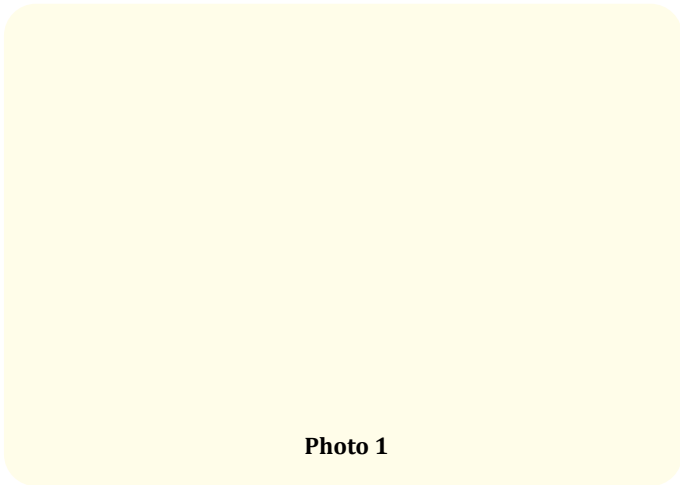


Photo 1

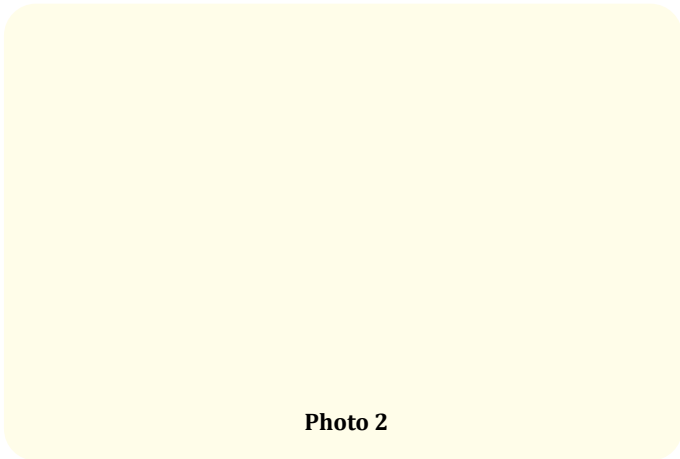


Photo 2

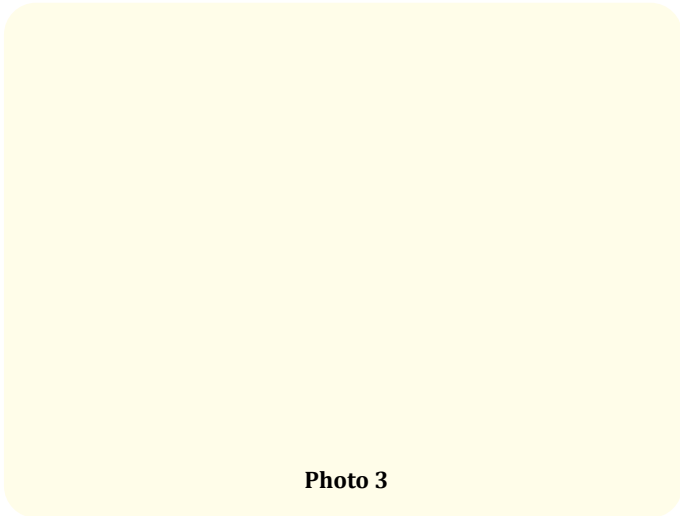


Photo 3

of fibrillary and fibro-connective tissues [14]. Use of Masson's trichrome stain revealed red staining of the glialcells/tissue, while the back drop of fibrosis was thus stained blue by this stain [14]. Immuno-histo-chemistry examination was also made, where by glial tissue fibrillary acidic protein was found positive in this case [14]. Therefore basing on above facts, the diagnosis of nasal glial dismormic tissue/heterotopia was decided [14]. The patient had an uneventful postoperative period.

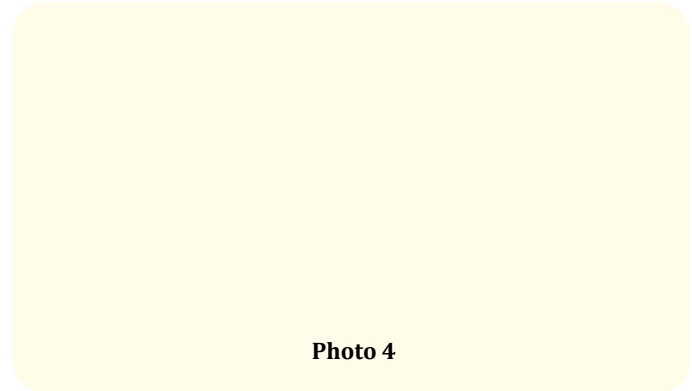


Photo 4

Rationale

Nasal glial dis morphia or heterotopia is a rare type of tumour with meningotheial and/or neuroglial elements with propensity of any one of them [2-4]. If glial tissue is more it is called nasal glioma and if meningeal tissue predominate or found alone then it is called nasal meningioma.

Patient concerns

An 18-year-old male was investigated, diagnosed and treated for a congenital mass present since birth on the root of nose on dorsum. Normally it is detected at infancy but due to being non symptomatic it may be reported late due to increase in size and or pain.

Diagnoses

The patient was thus diagnosed before operation, clinically as a congenital extra nasal neoplasm.

Interventions

Surgery was performed under Local anesthesia, and the mass was completely resected. Sometimes it is possible to remove the lesion by endoscope [15] and there can avoid scar at nose.

The tissue was sent for histological examination, and the diagnosis was of extra nasal glial heterotopia [14].

Outcomes

The neurosurgical procedure was successful and result was satisfactory, without any surgical site infection and swelling. After 6 months of follow-up, the patient was healthy without any complaints with complete absence of any swelling at surgical site.

Lessons

Neuro Surgical excision, is a good curative procedure [11-13,15] used to address such extranasal glioma or glial heterotopias. This resulted in no major complication and reappearance during the follow-up time. The chances for an intracranial communication must always be suspected and kept in mind when considering how to investigate and neurosurgically operate a congenital midline nasal mass. This may prevent the risk of, brain infection, cerebrospinal fluid leakage and recurrence.

Results

Proper investigation and treatment resulted into cure of the nasal glioma.

Conclusion

Swelling at the root and bridge of nose may be nasal glioma, which increases with age and may cause swelling as well as pain and deformity. Proper assessment, investigation and treatment may lead to cure of the lesion.

Conflict of Interest

There is no conflict of interest including financial.

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