ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 04 | April - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A RARE CASE OF NASAL GLIAL HETEROTOPIA – RADIO PATHOLOGICAL CORRELATION.

Radio-Diagnosis

Dr Padmini Segu MBBS, MD, Post Graduate, Department of Radio Diagnosis, Mysore Medical College and Research Institute

Dr Ramalakshmi k* MBBS, MD, Post Graduate, Department of Radio Diagnosis, Mysore Medical College and Research Institute *Corresponding Author

Dr Nagarajaiah Chandandur Pradeep kumar MBBS, DNB, Associate Professor, Department of Radio Diagnosis, Mysore Medical College and Research Institute

ABSTRACT

Nasal gliomas are uncommon, benign congenital malignancies which are thought to be the product of an anomaly in embryonic development. These lesions are also known as Glial heterotopias. These tumors, which restrict the nose cavity intranasally and induce extra nasal deformity, are clinically described as stiff, noncompressible, non pulsatile, gray, or purple lesions. The preferred treatment is transfacial lateral rhinotomy for those patients with extra nasal gliomas with no intracranial connection. In this article, we describe a case of a extra nasal nasal glioma that was removed via a lateral rhinotomy in a 9 month old child.

KEYWORDS

Paediatrics, Glioma, Benign, Magnetic Resonance Imaging

CASE REPORT

9-month-old female patient, presented with complaints of swelling in front of the nose since birth, which increased in its size recently .No trauma history given by the attenders.

No antenatal scan and postnatal scan done.

On clinical examination, Soft swelling in the dorsum of the nose , which is fluctuant , translucent and did not change in size during Valsalva maneuver.

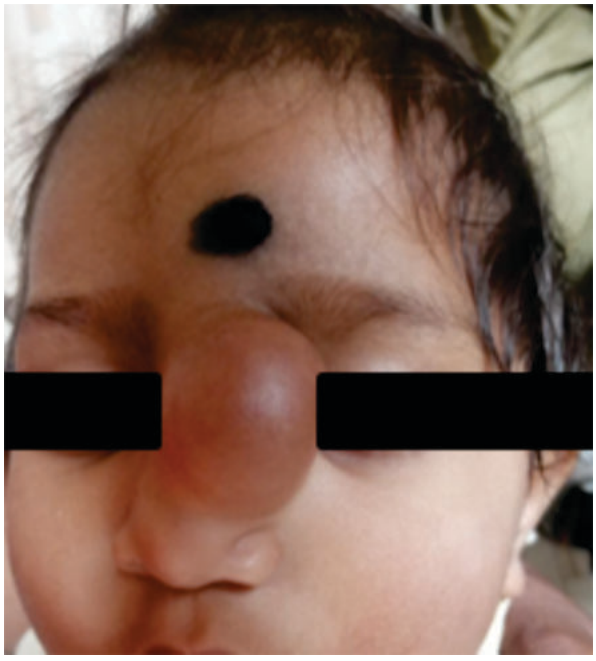

Figure 1 – Clinical Picture Of The Case Showing Soft Tissue Swelling On Dorsum Of Nose

Patient was subjected to USG which depicted a well-defined hypoechoic solid subcutaneous extra nasal lesion overlying the bridge of nose which is closely abutting the underlying nasal bone with no e/o bony erosion (figure 2a).On color doppler , there is evidence of internal vascularity (figure 2b)

Patient was subjected to MRI and CT to t/o intracranial extension. MRI Brain, shows an left sided extranasal mass with signal intensity similar to brain parenchyma in T1 (figure 3a), T2 and FLAIR (figure 3b and 3c) sequences. Differential diagnosis of nasal glioma was made

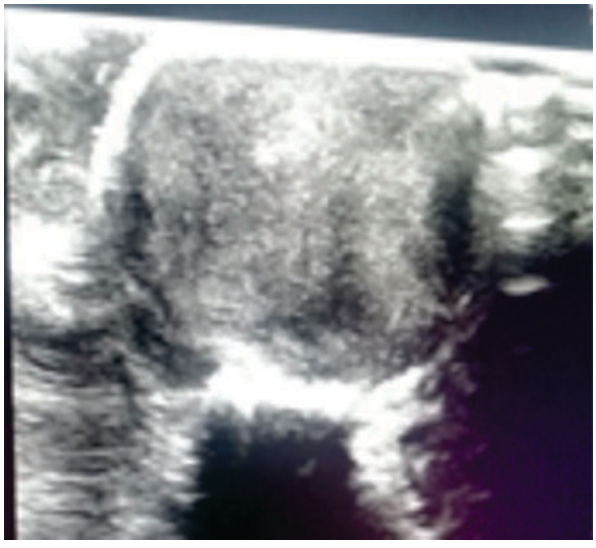

Figure 2a – Greyscale Ultrasound Imaging Of Extra Nasal Mass

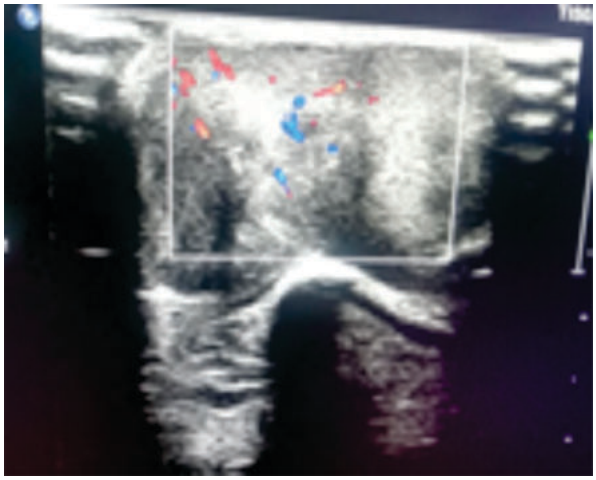

Figure 2b On Colour Doppler Study, The Mass Showed Internal Vascularity

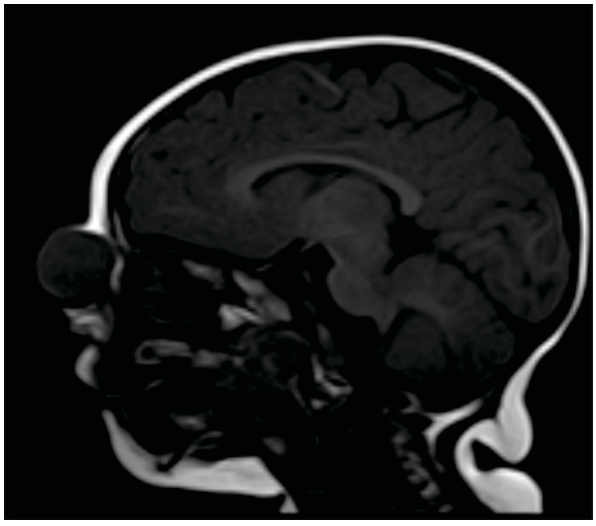

Figure 3a – Sagittal T1W Image Of Brain Showing The Extra Nasal Lesion Is Intense To Grey Matter

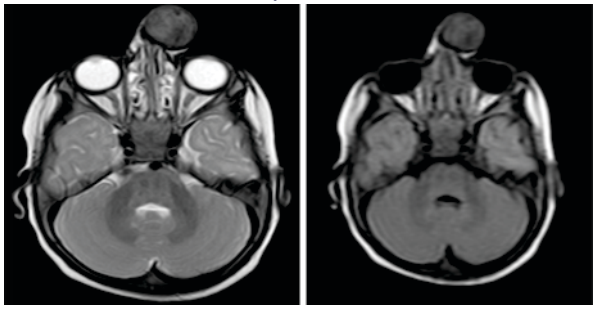

Figure 3b And 3c Axial T2 And FLAIR Image Of Brain Showing The Extranasal Lesion Is Isointense To Grey Matter

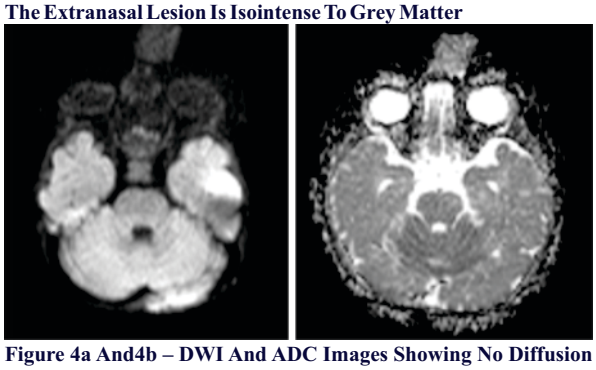

Figure 4a And4b – DWI And ADC Images Showing No Diffusion Restriction

On CT Brain (figure 4a) showed a well-defined extranasal soft tissue density lesion on left side with smooth scalloping of underlying nasal bone (figure 4b) which is adherent to the cartilaginous nasal septum.

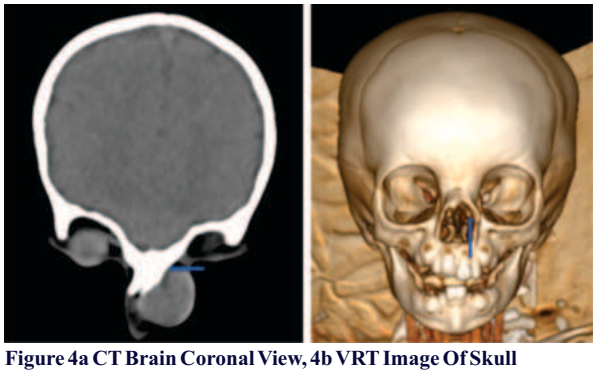

Figure 4a CT Brain Coronal View, 4b VRT Image Of Skull

This patient underwent surgery and histopathology came out to be glial heterotropia which is consistent with the diagnosis. Patient well tolerated the procedure. There was no post operative complications.

Figure 5 A – Gross Specimens Shows Fleshy Nodular Tissue Which Is In Grey White Appearance On Cut Section

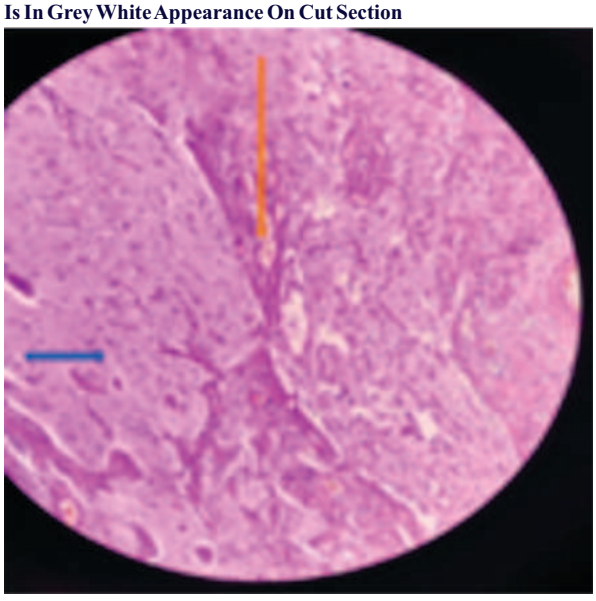

Figure 5b Microscopic Image Shows Nodules Of Mature Gliotic Tissue (Blue Arrow) Separated By Areas Of Fibrosis (Orange Arrow)

DISCUSSION

Nasal gliomas are congenital masses of dysplastic neuroglial tissues which are non-malignant heterotopic rests of cells.

Multiple hypothesis has been postulated and the most widely accepted one is the "encephalocele theory". According to this theory both encephalocele and nasal glioma develop secondary to a failure of regression of the forebrain dural protrusion through the foramen cecum and fonticulis frontalis. This results in persistent connection between the neural and surface ectoderm.in encephalocele the connection to the brain is maintained while in nasal glioma it is obliterated.in about 20% of glioma cases, a fibrous stalk connection between the nasal mass and the intracranial compartment may occur [1].They present as congenital craniofacial midline mass at birth. These lesions are benign in nature and lack malignant potential. Nasal glioma can easily be confused with frontonasal encephalocele and mucocele clinically. Nasal glioma is treated with surgical resection Radiological evaluation of the prenasal masses by CT and MRI play an important role in the preoperative period for a confident diagnosis. The recurrence rate can be reduced if the intracranial stalk is excised during surgical resection[1].Key imaging finding in making a definitive diagnosis of NG is no intracranial communication of the nasal mass. The mass matches the signal intensity of brain in all the sequences with no/peripheral rim of contrast enhancement. Final diagnosis is by histopathogical examination

CONCLUSION

In pediatric patients with extranasal mass, CT imaging provides important information about penetration of the osseous structures, but MRI is required to characterise the mass and evaluate for intracranial extension of soft tissue abnormalities. Imaging is crucial in characterizing these lesions and to determine their extent

This is therefore helpful in proper surgical planning and to prevent

recurrence. The possible existence of intracranial continuity must be ruled out preoperatively, differentiating neuroglial heterotopia from an encephalocele. Early detection and management are crucial to relieve obstructive symptoms and maintain normal development. Knowledge of embryonic development is crucial in understanding the major differential pathology of paediatric extranasal masses. The preferred treatment is complete surgical excision.

REFERENCES

1. Pereyra-Rodríguez JJ, Bernabeu-Wittel J, Fajardo M, Torre C, Sánchez-Gallego F. Nasal glial heterotopia (nasal glioma). J Pediatr [Internet]. 2010;156(4):688-688.e1. Available from: http://dx.doi.org/10.1016/j.jpeds.2009.09.015
2. Shafqat A, Shafqat S, Magableh HMF, Shaik A, Elshaer AN, Alfehaid WK, et al. Radiologic diagnosis of nasal gliomas with an illustrative case report. Indian J Otolaryngol Head Neck Surg [Internet]. 2022;74(S3):4623–7. Available from: http://dx.doi.org/10.1007/ s12070-021-02927-9
3. Karunakaran P, Duraikannu C, Pulupula VNK. An unusual presentation of neuroglial heterotopia: case report. BJR Case Rep [Internet]. 2020;6(2):20190116. Available from: http://dx.doi.org/10.1259/bjrcr.20190116