Intracranial Lipoma: A Case Report

Aironi VD,* Singh J,* Vyas V R,* Chougule S*

Abstract

Intracranial lipomas are rare tumors of developmental origin. They arise from an abnormal persistence and maldifferentiation of meninx primitive surface layer of the neural tube. It is usually associated with intracranial malformations. We report a case of intracranial lipoma associated with agenesis of corpus callosum detected incidentally in an adult patient, referred for CT head scan to evaluate head trauma.

Keywords: *CT Scan, calcification, fat, corpus callosum dysgenesis.*

Introduction

Intracranial lipomas are rare tumours of developmental colpocephaly. The frontal horns of the lateral ventricle origin which arise from an abnormal persistence and showed medial concave impression due to intervening maldifferentiation of meninx primitive surface layer of lesion, the neural tube, a mesenchymal neural crest derivative that normally forms the subarachnoid cistern [1,2]. They are usually associated with intracranial malformations, however slight they may be[3]. We report a case of intracranial lipoma detected incidentally.

Case report

A fifty two year old man presented with head injury and reported for CT scan of the head. His chest radiogram and haematological examinations were within normal limits. Radiogram of the head, Scout view revealed anterior intracranial calcification[1]. Plain and contrast CT scan head study revealed a well defined, smoothly demarcated, deeply hypodense lesion measuring 3.27 x 2.37cm, present in the mid sagittal region of corpus callosum anteriorly, showing attenuation value of fat density (-50 to -100 HU). It showed anterior peripheral area of calcification measuring 1.37 x 1.35 cm (+366[2,3] HU). The lesion extended over 3 sections of 10 mm thickness each. There was another speck of calcification along the left lateral wall. The lesion did not show any significant enhancement[3,4]. CT also revealed widely spaced, parallel lateral ventricle with dilated occipital horns colpocephaly. The frontal horns of the lateral ventricle showed medial concave impression due to intervening lesion.

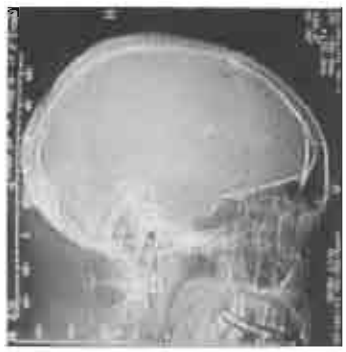

Fig: 3

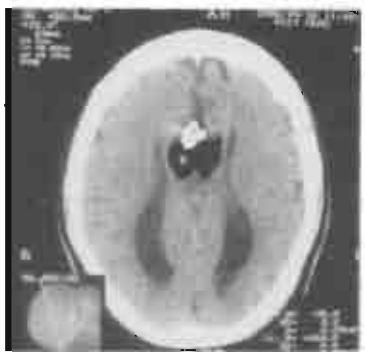

Fig: 4

* Associate Proff. Dept. Radiology
Rural Medical College, PIMS, Loni

Address for Correspondence
Dr. V.D. Aironi
Associate Professor, Dept. of Radiology,
Rural Medical College, Loni, Tal. Rahata, Dist. Ahmednagar (MS)

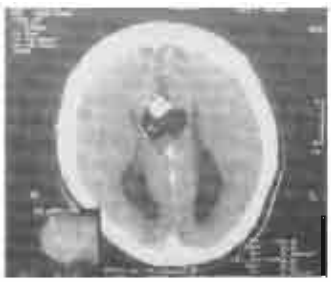

Fig: 3

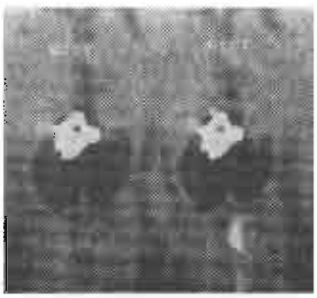

Fig: 4

Discussion

Intracranial lipomas are not true neoplasms, but represent congenital malformations which are usually subarachnoid in location, most commonly seen in pericallosal sulcus. Other sites include chiasma, circum-mesencephalic, interpeduncular and quadrigeminal and cerebello-pontine angle cisterns[1,2,4].

About half of the pericallosal lipomas are associated with dysgenesis of corpus callosum, most commonly of the rostrum, genu and anterior body of corpus callosum.[1] They are usually asymptomatic but may present with seizures, headache and behavioural disturbances usually related to dysgenesis of corpus callosum[3].

Intracranial lipomas are of two types :

1. Tubonodular lipomas: These are round, anteriorly located lipomas associated with high incidence of dysgenesis of corpus callosum and anomalies of frontal lobes.
2. Curvilinear lipomas: They are posteriorly located as long and thin curves around splenium and are usually associated with either a normal or slightly dysgenetic corpus callosum[1].

Clinically, they are usually asymptomatic and are usually discovered incidentally.

Plain X- Ray films of the skull reveal central lucent midline anterior lesion with marginal curvilinear calcification (bracket calcification).

Computerized tomography study reveals smoothly demarcated mass relatively more hypodense than cerebrospinal fluid (CSF), often marginated laterally with nodular or curvilinear calcification.

Magnetic resonance imaging reveals homogenously hyperintense lesion on Tl weighted images and T2 weighted images, with areas of low signal intensity suggesting calcification.

Central flow voids may be seen representing pericallosal arteries passing through substance of tumour[1].

The asymptomatic lesions usually do not require any treatment, however, if symptomatic, may need surgical excision. As vessels and nerves traverse many lipomas. attempts at total surgical excision have had poor neurological outcome[3].

Our case of incidentally detected intracranial space occupying lesion showed deeply hypodense lesion with fat density and peripheral calcification in the region of the pericallosal sulcus, pathognomonic of intracranial pericallosal tubo-nodular lipoma associated with dysgenesis of corpus callosum. MRI evaluation confirmed the diagnosis of lipoma. Our case did not require any surgical treatment as patient was asymptomatic.

Conclusion

Computerized tomography scans play a significant role in diagnosing intracranial lipomas and establishing CNS anomalies as most of them are disabling either due to the anomaly itself or due to commonly associated anomalies.

References

1. S.A. Kieffer, J. Chang, Intracranial neoplasms, In J. R. Haaga, C. F. Lanzieri: CT and MRI imaging of the whole body,4th edition, Mosby vol.l:pagel71-173.
2. J. Rees, S. H. Lee, J. Smirniotopoulos, Primary brain tumors in adults, In S. H.Lee, Rao, Zimmerman: Cranial MRI and CT,4* edition, Mcgraw Hill 1999: page 311-312.
3. A. G. Osborn Diagnostic neuroradiology,1997 edition, page 636-639.
4. T. Ichikawa, T. Kumuzaki: Intracranial lipomas, J. Nippon med sch, 2000,67(5).