

Cryptococcoma's on Mr Imaging-A Case Report

Lokesh Rana^{1*}, Dinesh Sood², Nikita Verma³, Parminder⁴, Saurabh Kumar Sahu⁴ and Narvir S Chauhan⁵

¹Assistant Professor, Department of Radio-diagnosis, Dr RPGMC, Kangra at Tanda, Himachal Pradesh, India

²Professor, Department of Radio-diagnosis, Dr RPGMC, Kangra at Tanda, Himachal Pradesh, India

³Senior Resident Department of Radio-diagnosis, Dr RPGMC, Kangra at Tanda, Himachal Pradesh, India

⁴Resident Department of Radio-diagnosis, Dr RPGMC, Kangra at Tanda, Himachal Pradesh, India

⁵Associate Professor, Department of Radio-diagnosis, Dr RPGMC, Kangra at Tanda. Himachal Pradesh, India

***Corresponding Author:** Lokesh Rana, Assistant Professor, Department of Radio-diagnosis, Dr RPGMC, Kangra at Tanda, Himachal Pradesh, India.

Received: July 15, 2018; **Published:** August 13, 2018

Abstract

CNS cryptococcosis results from infection of the central nervous system with the yeast-like fungus *Cryptococcus neoformans*. It is the most common fungal infection and second most common opportunistic infection of the central nervous system. The disease tends to be predominant in immunocompromised individuals such as those with AIDS. In immunocompetent patients, there is usually history of close contact with birds. We present a case of 18-year-old immunocompromised males suffering from AIDS and having CD4 count 70 cells/ μ L with protracted cryptococcal infection of the central nervous system, MR imaging showed presence of cryptococcomas in the bilateral basal ganglia region. Purpose of this study is to present relatively rare opportunistic infection of brain in HIV positive patient with typical MR imaging characteristics [1,3].

Volume 2 Issue 3 August 2018

© All Copy Rights are Reserved by Lokesh Rana., *et al.*

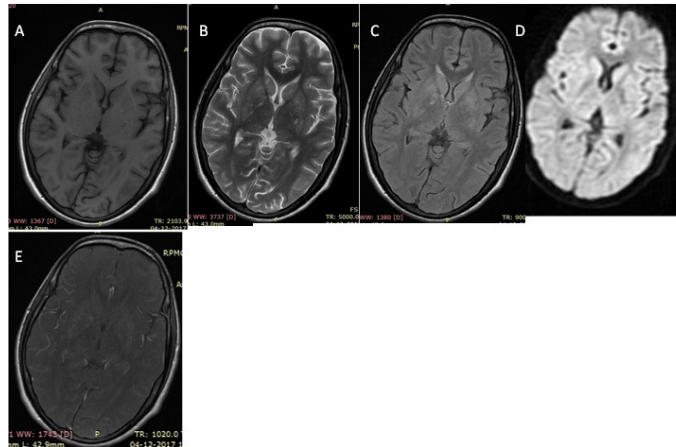
Introduction

Intracranial cryptococcosis primarily manifests itself as meningitis, CNS cryptococcosis is a particularly important neurologic problem in patients with the acquired immunodeficiency syndrome (AIDS) since *Cryptococcus neoformans* ranks as the third most frequent CNS pathogen in these patients following only the human immunodeficiency virus (HIV) and *Toxoplasma gondii* [1-4]. AIDS patients are not only at increased risk to develop cryptococcal infection, but they also tend to present with more disseminated forms of the infection⁵. MR is the imaging modality of choice in diagnosing the CNS manifestation of cryptococcosis and reliably differentiate between cryptococcomas and gelatinous pseudocysts [4,5].

Citation: Lokesh Rana., *et al.* "Cryptococcoma's on Mr Imaging-A Case Report". *Medical Research and Clinical Case Reports* 2.3 (2018): 218-220.

Case Report

We present a case of an 18-year-old male who is HIV positive with a 2-month history of headache and 1 episode of seizures. Neurologic examination showed bilateral papilledema. CD4 count was 70cells/ μ L and CSF study findings showed marginally elevated protein levels. Brain MR imaging showed multiple small variable sized lesions in basal ganglia region which were hypointense on T1W images and hyperintense on T2W images, not suppressed on FLAIR, showed no restriction on DWI and on post contrast images showed subtle faint contrast enhancement. The patient underwent stereotactic biopsy at a higher institute which revealed on histopathology a granulomatous lesion with the typical appearance of cryptococcoma. The patient was treated with amphotericin-B, intravenous steroids, and anticonvulsants.



A 18-year-old male who is HIV positive with a 2-month history of headache and 1 episode of seizures. Showed multiple small variable sized lesions in basal ganglia region which are hypointense on T1W (A) images and hyperintense on FLAIR (C) showed no restriction on DWI(D) and on post contrast images (E) showed subtle faint contrast enhancement

Discussion

Cryptococcosis, caused by an encapsulate yeast like fungus and is the most common CNS mycotic infection. Most patients have an underlying chronic illness, such as AIDS, diabetes mellitus, collagen vascular disease, chronic renal disease, alcoholism, or malignant neoplasms, particularly lymph reticular disorders, or they are on immunosuppressive medication, although the infection may occur in immunocompetent persons. It typically results from haematogenous spread from the lungs [1-4]. In HIV/AIDS patient's cryptococcal infection of the CNS usually occurs when the CD4+ count drops below 100 cells/ μ L. The disease can have either meningeal or parenchymal involvement with the former being the primary manifestation [6]. With meningeal involvement, a grayish, mucinous exudate accumulates over the involved brain surface. There are three dominant CNS forms to the disease which are: meningitis, cryptococcoma and gelatinous pseudo cysts [5].

One of the most common finding is hydrocephalus and there is a tendency for the disease to spread along the perivascular spaces [7,9]. With parenchymal involvement, there can be often formation of parenchymal cryptococcomas that commonly involve the mid-brain and basal ganglia as in our case. Gelatinous pseudocysts and choroidal ependymal granulomas may also develop [6,9]. CT findings can be often non-specific and with normal scans seen in a significant proportion of patients Hydrocephalus and mass lesions may also each be present in approximately 10% of cases. MRI is better at assessing dilated perivascular spaces, one of the most frequently described feature on MRI, and basal ganglia pseudo cysts. These findings are more common in immunocompromised patients. Cryptococcomas are of low signal T1W images and of high signal on T2W and FLAIR images and on post contrast images show variable, ranging from no enhancement to peripheral nodular enhancement. This typical characteristic was seen in our case. Gelatinous pseudo cysts give

a “soap bubble” appearance which are low to intermediate signal on T1W images and high in T2W images and suppressed on FLAIR images and this feature on FLAIR differentiate it from cryptococcomas which are of high signal. Treated with intravenous amphotericin B or fluconazole. It is fatal if left untreated [6,7,8,10].

Conclusion

Cryptococcomas is more frequently encountered infection in AIDS patients especially when the CD4 count fall below 100 cells/ μ L. MR is the imaging modality of choice in diagnosing the CNS manifestation of cryptococcosis and reliably differentiate between cryptococcomas and gelatinous pseudo cysts particularly differentiated on FLAIR images in which cryptococcomas are not suppressed while pseudo cyst are suppressed i.e. they show hypo intense signals.

References

1. Everett BA, et al. “Cryptococcal infection of the central nervous system”. *Surgical Neurology* 9 (1978): 157-163.
2. Harper CG, et al. “Cryptococcal granuloma presenting as an intracranial mass”. *Surgical Neurology* 11.6 (1979): 425-429.
3. Long JA, et al. “Cerebral mass lesions in Torulosis demonstrated by computed tomography”. *Journal of Computer Assisted Tomography* 4.6 (1980): 766-769.
4. Fujita NK, et al. “Cryptococcal intracerebral mass lesions: the role of computed tomography and nonsurgical management.” *Annals of Internal Medicine* 94.3 (1981): 382-388.
5. Cornell SH and Jacoby CG. “The varied computed tomographic appearance of intracranial cryptococcosis”. *Radiology* 143 (1982): 703-707.
6. Garcia CA, et al. “Cryptococcal intracerebral mass lesions: CT-pathologic considerations”. *Neurology* 35.5 (1985): 731-734.
7. Waterson JA and Gilligan BS. “Cryptococcal infections of the central nervous system: a ten year experience”. *Clinical and experimental neurology* 23 (1987): 127-137.
8. Tan CT and Kuan BB. “Cryptococcus meningitis, clinical-CT scan considerations”. *Neuroradiology* 29.1 (1987): 43-46.
9. Popovich MJ, et al. “CT of intracranial cryptococcosis”. *American Journal of Roentgenology* 154.3 (1990):139-142.
10. Tien RD, et al. “Intracranial cryptococcosis in immunocompromised patients: CT and MR findings in 29 cases”. *American Journal of Neuroradiology* 12.2 (1991): 283-289.

Submit your next manuscript to Scientia Ricerca Open Access and benefit from:

- Prompt and fair double blinded peer review from experts
- Fast and efficient online submission
- Timely updates about your manuscript status
- Sharing Option: Social Networking Enabled
- Open access: articles available free online
- Global attainment for your research

Submit your manuscript at:

<https://scientiaricerca.com/submit-manuscript.php>