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AUTOIMMUNE LIMBIC ENCEPHALITIS;
AUTOIMMUNE LIMBIC ENCEPHALITIS RELATED TO THYROID PEROXIDASE ANTIBODIES

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ABSTRACT… A young female patient presented to the Emergency Department with complains of headache, photophobia and seizure suggestive of viral or bacterial encephalitis/meningitis. After examination and multiple investigations, the patient was found to have autoimmune limbic encephalitisrelated to Thyroid Peroxidase antibodies.

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INTRODUCTION

New onset of headache, photophobia and seizures are commonly attributed to viral or bacterial encephalitis/meningitis. We report a rare case of new onset of headache, photophobia and seizures secondary to autoimmune limbic encephalitis.

CASE REPORT

Normally fit, 19 year old female patient was brought by ambulance to our A&E Department with sudden onset of headache three days prior to presentation.

Headache was frontal, throbbing in nature, continuous, radiating to the occipital area, It was associated with photophobia, blurring of vision and confusion (stated by mother).Pain been exacerbated by head movements and was not relieved by simple analgesia, there was no association ofnausea, vomiting or rash. She got no previous medical problems and she takes oral contraceptive pills only.

On arrival to the department, the patient was apyrexial, blood pressure of 112/68 mm/Hg, respiratory rate of 16 per minute and Oxygen saturation of 99% on air.

Physical examination was normal with no focal Neurological signs, patient was drowsy but with GCS 15/15 and complete normal neurological exam.

Patient went on to have two absence seizures in A&E, which been treated as meningitis? Viral Encephalitis?

Blood test showed raised C-reactive protein of 25 (mg/L) and white cell count of 6.8 (x109/L),Renal function test was normal with the Urea of 3.2(mmol/L),Creatinine 70 (umol/L) and eGFR of >90 (ml/min) .CT head showed nothing abnormal as There was no evidence of any bleed or infarct. No mass or midline shift. No hydrocephalus. The ventricles were central and symmetrical.

In view of the patient symptoms and the CT results, LP was performed. Results showed normal opening pressure, white cell per cu mm

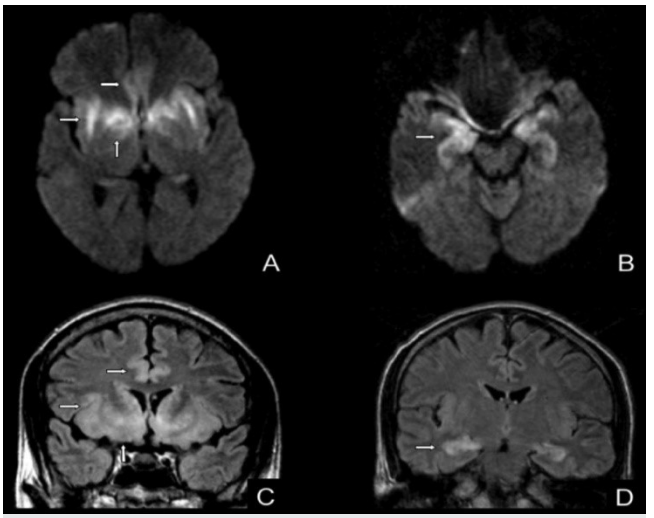

Figure-1. MRI with Gadolinium showing a signal evident in the mesial temporal Lobes bilaterally. No evidence of restricted diffusion. Normal craniocervical junction. Visualised nasal paranasal sinuses are within normal limits

of 9, red blood cells per cu mm of 3, and no organisms, no organs stain, CSF/Serum glucose ratio was in normal limits with no evidence of Type-A γ-aminobutyric acid receptors (GABAA) Antibodies.

Also the Blood cultures showed no organisms.

Patient went on having recurrent seizures for days whilst on antibiotics and antivirals. Neurology input was requested, patient was transferred to Queens Medical Centre where had an MRI scanwith Gadolinium, and that showed high signal of temporal lobes bilaterally as well as well as insular and apossible diagnosis of autoimmune limbic encephalitis was done (Figure 1).

Patient went on to have further investigations and a high thyroid peroxidase antibody were detected, so as a result for all investigations,a diagnosis of autoimmune limbic encephalitis possibly related to Thyroid Peroxidase antibodies was reached and the Patient has been on intravenous IgG and steroid treatment with a very good response.

The management plan included:

1. Start on Antiepileptic therapy (Tegretol 400 mg, twice a day).
2. Start on Oral steroid therapy.
3. Repeat MRI images for follow up.
4. Repeat thyroid peroxidise Antibodies test in 2 months' time.

DISCUSSION

The presence of negative CT results with negative LP results in a patient with new onset headache and seizures could be caused by limbic encephalitis.

In general, headache, photophobia and seizures can be caused by viral/bacterial encephalitis/ meningitis and space occupying lesions. Other rare causes include limbic encephalitis.

Autoimmune limbic encephalitis can arise both by paraneoplastic and non-paraneoplastic mechanisms. Clinical presentation is variable, typically causes short-term memory loss and mental status changes. Seizures and psychosis have been reported. Other frequent features include hallucinations, headache, hypersomnolence, language difficulties, and stroke-like episodes. Rare focal presentations, such as a frontotemporal dementia-like syndrome, have also been describe

Radiographic features include MRI with High T2 signal without enhancement, changes are most evident in the mesial temporal lobes and bilateral involvement is most common (60%). PET scancan show increase of FDG uptake (Figure 2)

CONCLUSION

Autoimmune Limbic Encephalitis is a rare but an important differential diagnosis of headache, photophobia and seizures. Presence of normal CT and LP with new this symptoms showed always raise the possibility of autoimmune limbic encephalitis.

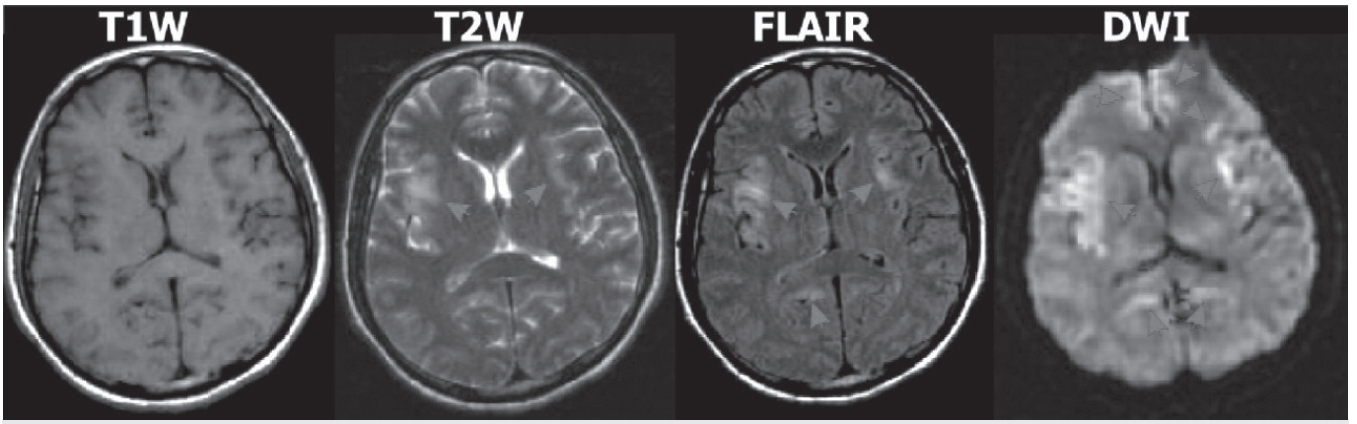

Figure-2. Brain MRI showing a High T2 signal without enhancement, in the mesial temporal lobes bilaterally.

Learning Points

Autoimmune limbic encephalitis is a rare but an important differential diagnosis of new onset headache, photophobia and seizures.
Presence of negative CT results, with negative LP and blood results should alert the need for MRI scan.
Autoimmune Limbic encephalitis can present in many different features but most common signs are the short –term memory loss and seizures.

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