Acute Transient Hemiparesis - An Unusual Pseudo Exacerbation of Multiple Sclerosis

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INTRODUCTION

Multiple sclerosis is a chronic demyelinating disease characterised by inflammation and plaque formation. Multiple sclerosis has many variants. It presents as four clinical forms, Relapsing Remitting Multiple Sclerosis (RRMS), Primary Progressive Multiple Sclerosis (PPMS), and Secondary Progressive Multiple Sclerosis (SPMS) and Primary Relapsing Multiple Sclerosis (PRMS). RRMS can present as acute attacks. They should be differentiated from pseudo-exacerbations. True exacerbation is when a new lesion appears in the brain or spinal cord, with a neurological episode lasting for more than 24 hours, with a period of clinical stability over the last 30 days.[1] Any flaring up of symptoms of multiple sclerosis due to external factors such as fever, heat or infection is called pseudo-exacerbations. Pseudo-exacerbation episodes do not last for more than 24 hours and should resolve with treatment of the underlying fever or infection.[2]

PRESENTATION OF CASE

A 30-year-old female, a known case of multiple sclerosis diagnosed 1 year back presented to us with complaints of fever with chills since 2 days, burning micturition since 2 days and weakness of right upper and lower limb since 3 hours. There was no history of headache, vomiting, seizures, slurring of speech, altered sensorium, diarrhoea, blurring of vision, diplopia, hematuria, or pelvic pain.

One year back she had blurring and diminution of vision in right eye for which she was evaluated. MRI brain at that time had revealed non enhancing plaque like multiple T2 / FLAIR predominantly white matter hyper-intensities in juxtacortical and periventricular regions suggesting possibility of demyelinating plaques of multiple sclerosis (clinically isolated syndrome). During the previous admission she was treated with Intravenous methyl prednisolone 1 gm for 5 days and 60 mg of oral prednisolone was tapered within next 2 weeks.

In this admission on general examination; patient was conscious and well oriented to time, place and person. Vitals were stable. Patient was febrile with a temp of 101.3 Fahrenheit. On neurological examination patients cognitive functions were normal. There was no speech abnormality. Motor examination revealed hypotonia, exaggerated reflexes and extensor plantar response on the right side. Sensory examination revealed no sensory deficit. Cortical sensations were normal. Co-ordination was normal. Per abdomen examination revealed suprapubic pain to palpation.

On investigation: White blood cell counts were 13,400 / mm^3, urine routine examination revealed 10 - 15 pus cells / HPF and 3 - 4 RBC's / HPF. Chest x-ray was normal. MRI brain revealed hyper intensities in the juxtacortical and deep white matter in right high parietal, centrum semiovale and bilateral periventricular region. Similar lesions were seen involving upper pons and medulla and bilateral cerebellar hemispheres. On comparison with the previous MRI there were no new lesions identified. The patient was treated with antipyretics and intravenous antibiotics and observed. Within the next 10 hours the patient's weakness completely recovered. It was presumed that the hemiparesis was pseudo exacerbation rather than a true exacerbation. Further neurological investigations were not done. After 2 days the patient was asymptomatic and was discharged with antibiotic course of 7 days for urinary tract infection.

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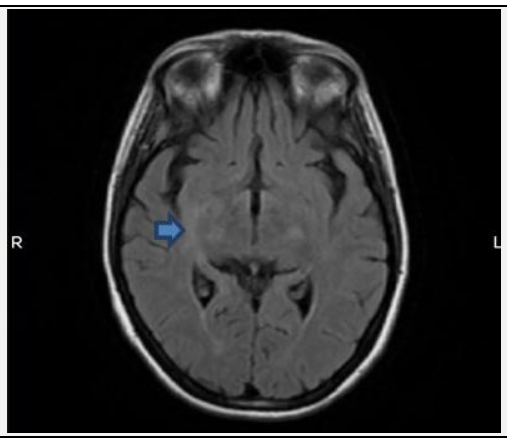

Figure 1. MRI Brain Showing T2 FLAIR Hyper Intensities in Juxtacortical and Deep White Matter in Right High Parietal, Centrum Semiovale and Bilateral Periventricular Region. Similar Lesions Seen Involving Upper Pons and Medulla and Bilateral Cerebellar Hemispheres

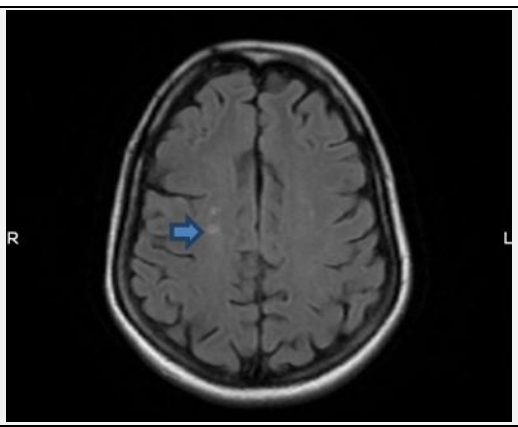

Figure 2. Arrow Showing Fluid Attenuated T2 FLAIR Lesions on a Different Section of the Same MRI Brain

DISCUSSION

True and pseudo-exacerbations have varying symptoms. True exacerbations more often involve more isolated parts of the body, while pseudo-exacerbations often involve diffusely many body parts and organ systems. Some symptoms may be more specific to true exacerbations while some to pseudo-exacerbation. Still the exact differentiation of the nature of symptoms in both is difficult.[3] Usual symptoms of true exacerbations may be blurring or loss of vision, diplopia, sensory symptoms or motor weakness in one half of body or one limb or lower limbs, ataxia, band like sensation around chest or abdomen or electric shock like sensation on flexing the neck radiating from the back to the lower limbs. False exacerbations more commonly present as generalised weakness, cognitive changes, bowel or bladder changes. This case was rare, where the patient presented with transient hemiparesis as a manifestation of pseudo-exacerbation. Some medications used to treat MS can precipitate exacerbations with new neuro deficits, which can be attributed to antibodies against the medication like interferon alpha 1 A and interferon alpha 1 B or natalizumab. Patients on natalizumab presenting with worsening of symptoms should be carefully investigated to rule out JC virus induced progressive multiple leukoencephalopathy (PML).[3]

In our patient, the urinary tract infection was the cause of pseudo-exacerbation, which when treated resolved the symptoms of the patient. In a prospective study 73 patients of relapsing remitting multiple sclerosis, 167 infections and 145 exacerbations were observed. Increased risk of exacerbation at a ratio of 2:1 was found during a clinical infection. There were no new MRI changes.[4] Thus, during pseudo-exacerbation mere treatment of infection leads to resolution, with no definitive need of steroids.

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