Original Article

A Case Report of Meningitis Retention Syndrome

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Abstract

Background: People with MRS usually have mild pyramidal symptoms with fever, headache, stiff neck, and urgency. The bladder is initially flexible, but as the disease progresses it becomes either normal or hyperflexible with frequent urodynamics. MRS, a less severe variation of acute disseminated encephalomyelopathy (ADM), is characterised by a rise in the number of cells, total protein, and sometimes myelin basic protein in the cerebrospinal fluid. A exceptional combination of acute urinary retention and aseptic meningitis has been proposed. Patients with this condition exhibits mild pyramidal involvement with no other deformities.The main focus is to portray this syndrome by analysing literatures.

Methods:A 70 year old male presented with complaints of fever, increased duration and frequency on urination with the background of Epstein Barr virus infection and is a known hypertensive not on treatment. He lacked any other risk factors for Meningitis retention syndrome.

Results:Approach to this case is helpful with symptoms of urinary complaints with progression to choreiform complaints . EBV antibody titre found to be elevated found to be the cause of EBV reactivation in this case.

Conclusion:This condition might go misdiagnosed with similar conditions mimicking meningitis retention syndrome. Hence several strategies has to be applied in diagnosing and treating the root cause of MRS.

Key Words : Aseptic meningitis; Meningitis retention syndrome; Urinary retention, Ellsberg syndrome , ADEM.

INTRODUCTION

There has been an association between meningitis retention syndrome, which is an uncommon disease and herpes simplex virus type 2.Meningitis retention syndrome is a condition which occurs when patient develops incomplete emptying of the bladder,inflammation of meninges and increased CSF leukocyte count But here in a 70 year old male MRS is manifested by Epstein-Barr virus.

CASE PRESENTATION :

A 70-year-old guy who was experiencing heat and discomfort when urinating visited our hospital. Before being admitted, the patient had similar complaints..Patient was detected to be UTI and was started on oral antibiotics. Even though, his fever did not subside, and decreased urinary steam and raised frequency and duration of urination were often observed. He is a known case of systemic hypertension but was not on any medications.He had GCS-15/15, recorded with axillary temperature 39.7°C, blood pressure 150/82 mmHg, pulse rate 90 bpm, normal rhythm and normal volume.14 respiratory rate per minute and was maintaining saturation of 98 % at room air . On physical examination, there was no kyphosis or scoliosis, no pigeon chest deformity and no tenderness while examining prostate.All sensations were found to be intact. He didn't have a stiff neck. Signs for Kernig and Brudzinski were not present. Investigations revealed a lower than normal level of serum sodium (Na, 122 mEq/l), but no signs of inflammation (white blood cell count, 4,340/l; CRP, 0.5 mg/dl). Analysis of the urine
revealed no evidence of infection or its source. The patient was given hospital admission. He had dysuria and urine retention the next day, for which the patient required catheterization. The patient began to have chorea on the fourth day of hospitalisation, as well as neck stiffness, increased ligament reflexes, and unusual reflexes in both lower limbs. In the study of CSF fluid, the predominant mononuclear cells considerably raised the number of cells to 143 / micro litre, the CSF pressure to 274 mmCSF, and the CSF protein content to 131 mg / dl. These findings allowed for the diagnosis of aseptic meningitis and meningitis retention syndrome as the root causes of urinary retention. Contrast MRI Brain showing mild

meningeal enhancement with CT abdomen scan suggestive of distended urinary bladder.The differential diagnosis of aseptic meningitis included a thorough PCR test for the presence of the EBV virus in the cerebrospinal fluid. Measurements of EBV DNA showed 950 copies per millilitre. The blood EBV antibody titer test identified an elevated infectious pattern, a positive anti-EBNA antibody, and 10- and 40-fold elevations in EBV VCA IgM and IgG, respectively. As a consequence, EBV reactivation was shown to be the cause of MRS. No blood test findings indicated the presence of any viral, fungal, neoplastic, or autoimmune etiologies, including TB. The patient's symptoms disappeared entirely after getting antiretroviral medication and steroid pulse therapy.

DISCUSSION :

This was the case of meningitis retention syndrome due to Epstein Barr virus reactivation in a physically fit person with symptoms of meningitis such as fever,neck rigidity,headache followed by pain while urination. Although the

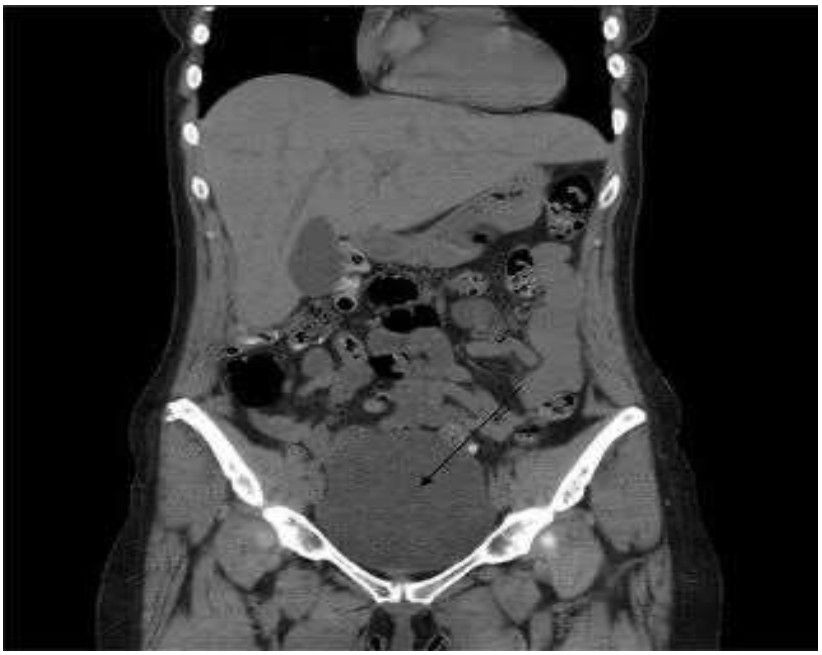

Fig 1.A showing CT Abdomen scan suggestive of distended urinary bladder

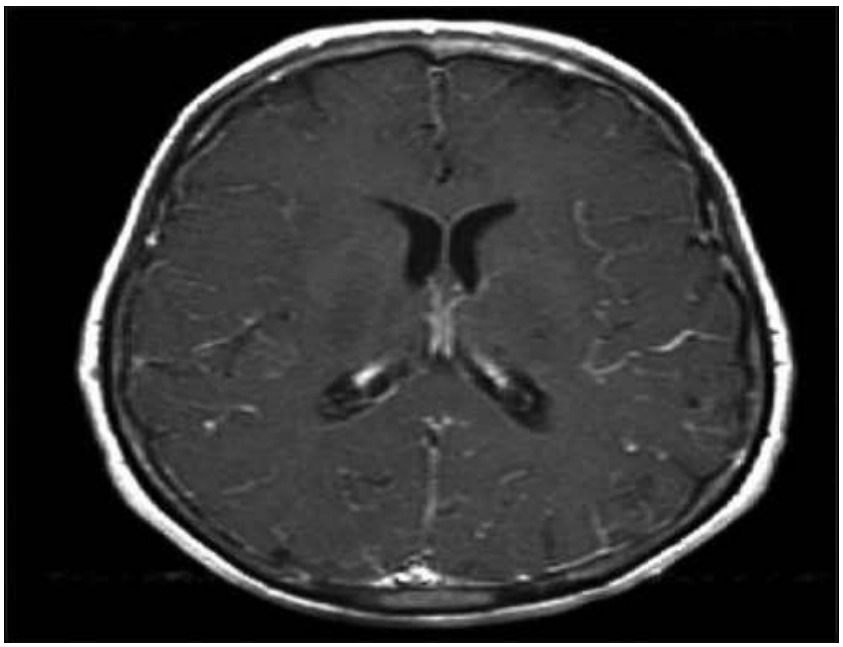

Fig 1B showing Contrast MRI Brain showing mild meningeal enhancement

pathogenesis of MRS is still unknown, it is similar to Ellsberg's syndrome, which is also caused by localized herpes simplex virus infection and is manifested by urinary retention. The sacral root injury brought on by direct bladder inflammation, temporary sphincter damage, and internal and neurological system damage after an infection are some of the causes of urine retention. According to reports, EBV infection is linked to inflammation and pigmentation. EBV infection may be

categorised as lytic or latent. The reactivation of EBV infection happens when freshly infected B cells undergo transformation. Regardless matter where in the tissue it infects, EBV is a lytic part and is particularly delicate to contamination. When the limit is surpassed, its rehabilitation is strongly advised for individuals with depressive disorders. However, it is uncertain what biochemical and dynamic elements promote or prevent vivo regeneration. The reappearance of EBV was identified as the cause of MRS after investigations into the case. No cases of MRS to EBV recurrence in frail patients have been reported. Although the processes of EBV regeneration in healthy people are unclear,
disorders brought on by EBV reactivation, such as meningitis, have been documented to harm the central nervous system. MRS might happen after renewal. The discovery of EBV DNA in spinal fluid is more accurate and serious than the detection of EBV VCA IgG. Therefore, to confirm EBV infection, quantitative analysis of the EBV DNA in spinal fluid is required. Additionally, it might be seen in MRS instances with no recognised cause. No EBV VCA IgG was identified in this quiet's spinal liquid, despite the fact that the PCR test for EBV in the spinal liquid changed from positive to negative after the patient recuperated. Dysuria, which goes before indications of meningeal disturbance, made the determination troublesome, as he tried to rule it out without a UTI in the present case. Urinary tract infections may include frequent and prolonged urine. The same symptoms, however, also point to pee retained in the bladder as a result of urinary incontinence. As a result, a complete abdominal exam and ultrasound are necessary for the diagnosis. The symptoms of Ellsberg syndrome are supposed to be inflammation of the herpes virus, which causes myelomyositis without meningitis. In these patients, urodynamic testing of the neurogenic bladder showed contraction with reluctance and decreased sensitivity during the filling phase. It has been suggested that inactive detrusors cannot achieve sufficient perfusion pressure to initiate constipation [2,5]. Detrusor dysfunction caused by lower motor neuron loss is often related with neurogenic bladder in neurological illnesses. Lower motor neurons are harmed as a result of Ellsberg syndrome (infectious sacral polyneuritis), a neurological condition. Urinary retention and cerebrospinal fluid pleocytosis are symptoms of MRS-like syndrome [2,6]. Ellsberg syndrome and MRS, however, vary in a number of significant ways. Among the signs of Ellsberg syndrome include genital herpes, mental impairment, muscular weakness, and sciatica-related back discomfort. with spinal cord or brain neurons being damaged. The demyelinating syndrome that appears following a viral infection is a remarkable manifestation of this illness, known as ADEM. In some cases, only the lower urinary tract is affected [8].The lower urinary tract's innervation is sometimes disrupted in persons with ADEM [9]. It has been suggested that MRS may represent a modest localised form of ADEM in certain situations CSF of individuals with MRS has been shown to include myelin basic protein and oligoclonal bands. [9]. In contrast, encephalitis and myelitis symptoms are seen in ADEM patients. X-ray outputs of the cerebrum and, less usually, the spinal string, will indicate abnormalities (demyelinating lesions of the white matter) [10].Damage to the higher motor neurons in the brain or spinal cord may sometimes cause a weak detrusor muscle. The demyelinating syndrome that appears following a viral infection is a remarkable manifestation of this illness, known as ADEM. The lower urinary tract is the sole location that is impacted in a small percentage of people [8]. The innervation of the lower urinary tract is prone to selective vulnerability in certain ADEM patients [9]. It has been suggested that MRS may represent a modest localised form of ADEM in certain situations where myelin essential protein and oligoclonal groups might be found in the CSF of MRS patients [9]. In contrast, encephalitis and myelitis symptoms are seen in ADEM patients. Abnormalities often seen on X-ray sweeps of the mind and, less every now and again, the spinal line (demyelinating lesions of the white matter) [10]. To set MRS apart from other conditions with a similar presentation, its definition must be more specific. There are no brain characteristics that can separate MRS from ADEM in several reported instances.Aside from sporadic splenic lesions, an MRI of the brain revealed no anomalies that may distinguish this illness from demyelinating sickness. Guillain-Barré syndrome, polyneuropathy, and diseases affecting the lower motor neurons may all be distinguished from MRS by the presence of numbness and paresthesia in the legs [2]. We think that MRS is essentially a moderate, often undetectable type of ADEM brought on by a viral infection.

CONCLUSION

MRS is a condition that both urologists and neurologists may run across, despite its rarity. When considering other diagnoses for acute urine retention, MRS should be considered. MRS could be more widespread than is widely believed. MRS was a self-limiting condition with a positive long-term outlook. It may, however, go unreported or get an incorrect diagnosis. Recognizing that people with AM may also have MRS is important.

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Ethical consent

Patient included in the study provided informed consent

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Conflict of interest

The authors declare no conflict of interest.

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