

A Case Report: A 63 Year Old Male with Atypical Presentation of Viral Meningitis

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Abstract

Introduction: Viral meningitis usually presents with headache, fever and signs of meningeal irritation in immunocompetent adult. Nuchal rigidity and profound alteration of consciousness usually present. Viral meningitis may remain a diagnostic enigma without molecular techniques. Rapid molecular assays are the great advancement for the diagnosis of difficult to grow pathogens such as viruses and thus can become a big tool in antimicrobial stewardship.

Objective: This case report aims to present a 63-year-old male with atypical presentation of viral meningitis which managed and discharged after 18th day of hospitalization.

Case presentation: We presented a case of B.E a 63 years old male, worked as engineer came in with chief complaint of fever, intermittent for four days. No other associated symptoms noted such as headache, blurring and body weakness. After 3 days of hospitalization, still with intermittent low grade fever without any associated complaints. On succeeding days of admission, patient developed sudden generalized body weakness and photophobia. All laboratory exams such as CT scan, electrolytes and complete blood count revealed normal. Vital signs and Physical examination were unremarkable. Lumbar puncture was done on 6th hospital day due to classic symptoms of meningitis such as photophobia and headache. The diagnosis was concluded as viral meningitis based on clinical presentation and CSF fluid analysis. Phadebac was requested after CSF analysis and no microorganisms were isolated. Patient was managed accordingly with acyclovir, steroids and mannitol. The neurologist and infectious disease specialist signed out the case as viral meningitis with conclusive laboratory result.

Conclusion: Viral meningitis is the most common type of meningitis, and patient will present to you with fever and constitutional signs and symptoms. The usual manifestations of meningitis are fever, signs of meningeal irritation in immunocompetent adult. Upon presentation, most patients report fever, headache, irritability, nausea and vomiting, stiff neck, rash or fatigue within the previous 18-36 hours. Headache is almost always present in patients with viral meningitis and is often reported as severe. In our patient, he presented with low grade fever alone, no meningeal nor headache were noted. The appearance of headache, nuchal rigidity and photophobia were noted late which make this case atypical presentation of viral meningitis.

Keywords: Headache; Blurring; Body weakness; Nausea and Vomiting; Viral meningitis

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Introduction

As the incidence of bacterial meningitis decreases, the proportion of meningitis cases caused by viruses is increasing [1]. The use of molecular diagnostics has also led to increased recognition of neurological viral infections. Patients with suspected viral meningitis are often treated with antibiotics while a diagnosis

of bacterial meningitis is excluded [2]. Acyclovir, which has good *in vitro* activity against my herpesviruses, is effective. Acyclovir has no activity against enteroviruses [1]. Viral meningitis is traditionally considered a benign, self-limiting illness, but several reports suggest that this might not be the case.

Case Presentation

This is a case of a 63 years old male, came in due to four days history of intermittent fever, undocumented associated with minimal coughing episodes and colds. Patient is a diagnosed case of hypertension, which was controlled by maintenance medication. No previous surgery and malignancy. On physical examination, patient was tachycardia with unremarkable Physical examination. Upon admission, patient was managed as a case of systemic viral illness. Laboratory diagnostics were done such as CBCPC, Urinalysis, CXR, Dengue duo and serum electrolytes.

On first hospital day, patient is on Day 5 of illness, Day 0 afebrile, still with febrile episodes, low grade, intermittent, associated with minimal coughing episodes, non-productive with loss of appetite and generalized body weakness. No nausea and vomiting, no headache nor No abdominal pain. On physical examination, vital signs were stable, febrile with unremarkable systemic physical examination. Ascorbic acid 1 tablet once a day and repeat CBCPC on the next day were ordered. CBC revealed normal.

On Second Hospital Day patient is on Day 6 of illness, Day 0 afebrile, still with febrile episodes, low grade, intermittent, associated with minimal coughing episodes, non-productive with loss of appetite and generalized body weakness. No nausea and vomiting. No abdominal pain. On physical examination, vital signs were stable febrile with unremarkable systemic physical examination. Repeat CBCPC, creatinine, Na, K, Calcium on the next day were ordered. CBC, creatinine, Na, K and Calcium revealed normal.

On Third Hospital Day patient is on Day 7 of illness, Day 0 afebrile, with continuous febrile episodes, low grade. Patient complained of abdominal pain, epigastric, non-radiating. No nausea and vomiting nor headache. Vital signs were stable and on physical examination, epigastric tenderness was noted. These findings, lead to consider GI pathology such as acute cholecystitis hence Upper abdominal ultrasound and CBCPC on next blood extraction and Maalox was started. CBC revealed normal.

On Fourth Hospital Day patient is on Day 8 of illness, Day 0 afebrile. Patient suddenly experienced epistaxis, one episode 1-2 ml of bright red blood, and was claimed without manipulation. The rest of the findings were the same. Patient was referred to ENT service and epistaxis was managed by giving Tranexamic acid 500 mg TIV stat dose. Diagnostics were requested such as PT PTT, CBCPC, Creatinine, Na and potassium tomorrow AM. Patient was then scheduled for nasal endoscopy. IDS referral was considered. PT and PTT and electrolytes were all normal. Nasal endoscopy showed chronic rhinosinusitis.

On Fifth Hospital Day patient is on Day 9 of illness, Day 0 afebrile. Patient still with febrile episodes, low grade, intermittent with occurrence of photophobia and increased in somnolence, Loss of appetite, generalized body weakness. On physical examination, vital signs were stable with noted photophobia and meningeal signs. These remarkable findings lead all attendings to consider meningitis. Blood CS, Chest CT scan, plain cranial CT scan and CXR portable were requested. Referral to neurologist was

considered. Blood CS, CXR, Plain chest CT scan, Cranial CT scan were all normal. Lumbar tap was also performed. A clear fluid with normal opening pressure has been analyzed. On cytology, noted with lymphocytic predominance with normal glucose level.

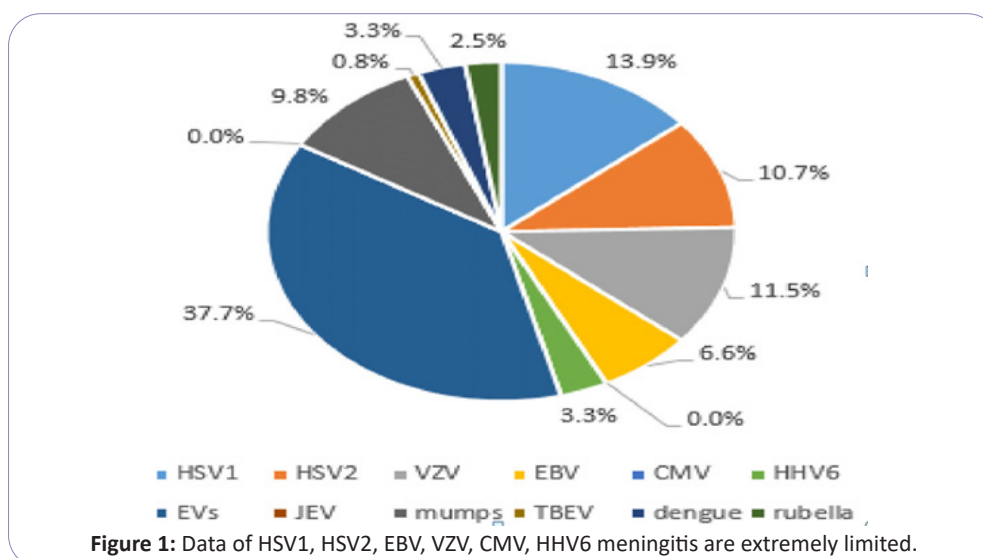
On Sixth Hospital Day patient is on Day 10 of illness, Day 0 afebrile. Patient still with febrile episodes, low grade, intermittent. Still with generalized body weakness, photophobia and increase somnolence. Physical examination and Neuro PE were still the same. Patient was then started with Acyclovir 500 mg TIV q8 while waiting for lumbar puncture.

On Seventh Hospital Day patient is on Day 11 of illness, Day 1 afebrile. The rest of the findings were the same. Cryptococcal antigen latex agglutination test, CSF microbiology, Anti nuclear antibody titer and rheumatoid factor were requested and noted with normal result.

On Eight Hospital Day patient is on Day 12 of illness, Day 2 afebrile. The rest of the findings were the same. Patient was monitored with the same management. Acyclovir has been shifted to Valcyclovir. Steroids and mannitol has been started as supportive medications. On his next succeeding days in hospital, patient noted with improvement and underwent physical rehabilitation. Patient has been discharged after 18th hospital day.

Discussion

Our patient came in with initial consideration of systemic viral illness, and by investigation on prevalence and incidence, it's very rare that we consider meningitis. Our patient did not present any signs and symptoms such as headache, photophobia, and neck stiffness from the time of consult. Our diagnostic work up also revealed unremarkable. But what the literature says with regard to this. Based on CDC, viral meningitis is the most common type of meningitis, and the patient will present to you with fever and constitutional signs and symptoms. The usual manifestations of meningitis are fever, signs of meningeal irritation in immunocompetent adult. Headache characterized as frontal or retroorbital photophobia. Nuchal rigidity usually presents as profound alteration in consciousness such as stupor, coma, or marked confusion do not occur in viral meningitis as well as in our patient. Upon presentation, most patients report fever, headache, irritability, nausea and vomiting, stiff neck, rash or fatigue within the previous 18-36 hours. Headache is almost always present in patients with viral meningitis and is often reported as severe [5]. The most important agents are enteroviruses (including echoviruses and coxsackieviruses), Varicella zoster virus (VZV), HSV, (HSV2>HSV1), HIV and arboviruses. CSF cultures are positive in 30-70%. [1] Approximately two thirds of culture negative cases of aseptic meningitis have a specific viral etiology identified by CSF PCR testing. [1] Based on study of Junhong et al, figure 1 showed percentage of viral pathogens in viral meningitis cases with confirmed etiology. Enteroviruses are the most common causative agent of viral meningitis.



Viral meningitis is not a nationally reportable disease, however it has been estimated that the incidence is approximately 60,000 – 75,000 cases per year. [1] CSF examination- the most important laboratory test in diagnosis of viral meningitis. The typical profile is a pleocytosis, a normal or slightly elevated protein concentration (20-80mg/dl), a normal glucose concentration and a normal or mildly elevated opening pressure (100- 350mmH2O). The total CSF cell count in viral meningitis is typically 25-500/uL. Lymphocyte are typically the predominant cell. The presence of CSF PMN pleocytosis in a patient with suspected viral meningitis in whom a specific diagnosis has not been established should prompt consideration of alternative diagnoses including bacterial meningitis or parameningeal infection. As a rule, a lymphocytic pleocytosis with a low glucose concentration should suggest fungal or tuberculous meningitis. Amplification of viral specific DNA or RNA from CSF using PCR amplification has become the single most important method for diagnosis CNS viral infection. CSF PCR has become the diagnostic procedure of choice and is substantially more sensitive than viral cultures. It is also an important diagnostic test in patient with recurrent episode of aseptic meningitis. The sensitivity of viral culture for the diagnosis of viral meningitis and encephalitis in contrast to its utility in bacterial infections is generally poor. All patients with suspected viral meningitis should have a complete blood count with differential, liver and renal function test, ESR and CRP, electrolytes, glucose and creatine kinase, aldolase amylase and lipase. Neuroimaging studies (CT scan and MRI) are not absolutely necessary. Treatment of almost all cases of viral meningitis is primarily symptomatic and includes analgesic, antipyretics and antiemetics. Fluid and electrolyte status should be monitored. Oral or IV acyclovir may be of benefit in patients with meningitis caused by HSV1-HSV2 and in cases of EBV or VZV. Data concerning treatment of HSV, EBV and VZV meningitis are extremely limited. [1]

Conclusion

Viral meningitis is the most common type of meningitis, and patient will present to you with fever and constitutional signs and symptoms. The usual manifestations of meningitis are fever,

signs of meningeal irritation in immunocompetent adult. Upon presentation, most patients report fever, headache, irritability, nausea and vomiting, stiff neck, rash or fatigue within the previous 18-36 hours. Headache is almost always present in patients with viral meningitis and is often reported as severe. In our patient, he presented with low grade fever alone, no meningeal nor headache were noted. The appearance of headache, nuchal rigidity and photophobia were noted late which make this case atypical presentation of viral meningitis.

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