Case Report: Acute Respiratory Distress Syndrome With Meningoencephalitis With A Known Case of H.I.V.

Roshani Patel1, Shakib H. Sheikh2*, Indu Alwadkar2, Priyanka Meshram3, Ranjana Sharma4, Roshan Umate6

1G.N.M II nd year, Florence Nightingale Training College of Nursing, Datta Meghe Institute of Higher Education & Research (D.U.), Sawangi (M) Wardha,
2Nursing Tutor, Florence Nightingale Training College of Nursing, Datta Meghe Institute of Higher Education & Research (D.U.), Sawangi (M) Wardha,
3Principal, Florence Nightingale Training College of Nursing, Datta Meghe Institute of Higher Education & Research (D.U.), Sawangi (M) Wardha.
5Professor cum HOD, Medical-Surgical Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Higher Education & Research (D.U.), Sawangi (M), Wardha.
6Research Consultant, Department of Research and Development, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education & Research (D.U.), Sawangi (M), Wardha.

Email: shakibsheikh122@gmail.com
DOI: 10.47750/pnr.2022.13.507.164

Abstract

Introduction: Meningoencephalitis and meningitis have a broad differential diagnosis: Infections caused by entero-viruses, human HPV types 1-4, 5, and 6, paramyxovirus (mumps), measles virus, and adenoviruses are among the causes of T.B. Clinical signs of primary H.I.V. infection cause hyperthermia, exhaustion, cold and cough, migraine, nasal cavity inflammation, widespread allergy, lymphadenopathy, and digestive issues. 2 Up to 17% of individuals get aseptic meningitis, meningoencephalitis, and encephalitis, which could be related to a quicker course of treatment for the disease and complication. After the onset of the initial H.I.V. infection symptoms and all other symptoms have subsided, neurological symptoms may develop or show up to 3 months later. Respiratory failure is a reasonably typical presentation to the I.C.U. in HIV-infected individuals. Since the meningoencephalitis epidemic, the overall incidence of Pneumocystis jiroveci as a cause of respiratory failure has decreased. There is evidence that continuing or initiating HAART in critically sick H.I.V. patients is helpful and should be addressed following a multidisciplinary discussion. Conclusion: One instance of meningoencephalitis and two cases of meningitis caused by primary H.I.V. infection is discussed. Patients with H.I.V. frequently enter the I.C.U. Due to respiratory insufficiency. Since the AIDS crisis, Pneumocystis jiroveci has generally become less common as a cause of respiratory failure. There is proof that starting or maintaining HAART is suitable for H.I.V. patients who are critically sick, so this should be taken into consideration following a multidisciplinary discussion. A literature analysis was carried out because critical care professionals have significant moral and practical repercussions when selecting whether to assist HIV-infected patients in the I.C.U.

Keywords: H.I.V., Meningoencephalitis, AIDS, Neurology, HAART.

INTRODUCTION

H.I.V. encephalitis, commonly known as HIV-associated neurological disease (HAND), is a group of neurocognitive abnormalities that develop after H.I.V. infection. This condition's clinical manifestations range from asymptomatic or moderate neurocognitive impairment to severe dementia. The most severe form of this spectrum is H.I.V. encephalopathy, often known as the AIDS-dementia complex.[1,2] A clinical neuropsychiatric examination and radiological investigations are used to make the diagnosis. Antiretroviral therapy (A.R.T.) administered promptly and effectively is the most effective treatment for H.I.V. encephalopathy. A collection of neurocognitive impairments following H.I.V. infection is referred to as H.I.V. encephalitis, also known as HIV-associated neurological illness (HAND). H.I.V. encephalopathy, often known as the AIDS-dementia complex, is the most severe variant of this spectrum. When given immediately and correctly, antiretroviral medication (A.R.T.) is the most effective treatment for HAND patients. Additionally, there is no history of hypertension, diabetes mellitus, T.B., or asthma, and there has been a single-day-old H.I.V. case.[3]

Whether HAART should be initiated in patients hospitalized in the I.C.U. is debatable. The use of A.R.T. significantly impacts the development of the illness and its side effects in people with H.I.V. encephalitis. H.I.V. patients are more likely to die if they have neurocognitive deficits. Antiretroviral therapy for H.I.V. patients continues to raise some valid concerns. [4,5]
The goal of this multidisciplinary team, which includes doctors, specialists, pharmacists, and nurses, is to offer the finest care possible. NINDS and NIMH are jointly financing the National Neuro AIDS Tissue Consortium. The use of impacts the outcomes in people with H.I.V. encephalopathy.[6]

Patient information

A 35-year-old female patient has been admitted to the hospital with chief complaints. The patient was apparently alright 4 days ago when he started complaining of loose stool, fever, generalized weakness, and multiple episodes of vomiting. And a known H.I.V. case since one day, with no history of hypertension, diabetes, tuberculosis, or asthma. The patient was apparently alright until 4 days ago when he started complaining of loose stool, fever, generalized weakness, and multiple episodes of vomiting. A known H.I.V. case for one day, with no history of hypertension, diabetes, tuberculosis, or asthma.

The physical findings are

There are no physical abnormalities: pulse rate is 102/min, respiration rate is 18/min, blood pressures are 110/70 mmHg, the temperature is afebrile, and height is 150 cm.

• The general examination is inferior.
• The position is supine.
• Nutritional status is average, and higher function is intact.
• The ear usually is symmetrical and doesn't have any type of discharge from the ear.
• The nose is regular and symmetrical.
• The tongue is usual, and teeth also do not have dental caries.

Systemic examination in that the respiratory system is air entry equal on both sides; a cardiovascular system in that the S1 and S2 sounds are heard; and no murmur sound is present. The central nervous system in that the patient is conscious and cooperative.

Diagnostic assessment

Brain imaging detects inflammation, tumors, C.N.S. lymphomas, bleeding, nerve injury, and other abnormalities. Brain imaging detects symptoms of C.N.S. lymphomas, tumors, and brain inflammation. Brain damage is assessed by concussions or degenerative diseases like Alzheimer's may be done using magnetic resonance imaging (M.R.I.). E.M.G., often known as electromyography, is used to identify HIV-related nerve and muscle dysfunction. Biopsies of the muscles or nerves can be used to diagnose neuromuscular issues. A CT scan can provide more information than an x-ray. Therefore, the case is diagnosed with:

• History collection
• Physical examination
• C.T. scan
• MRI
• CSF examination
Challenges

The primary cause is infected and non-infectious lung disorders, which pose a severe concern for H.I.V. patients. The lung ailments linked to H.I.V. infection has changed with the emergence of non-infectious lung issue in recent patients with the painful disease during the past ten years. The most common lung conditions found in H.I.V. patients were bacterial pneumonia and chronic obstructive pulmonary disease, and the frequency was much higher than in non-HIV people. The use of A.R.T. significantly affects the course of the illness and its consequences in people with H.I.V. encephalitis.

In individuals on A.R.T., a rare disease known as C.N.S. viral escape syndrome has been seen. Despite modest plasma viral levels, laboratory studies on this illness show significant CSF viral replication and new-onset neurocognitive impairments.

Diagnosis

The doctor advised further investigation. As the patient complained of pain, the doctor advised further research. The patient is a known case of H.I.V. as for the complaint, a thorough investigation was done via sputum collection and testing. Per the reports and cardiac charting, the patient was first diagnosed with respiratory failure. The doctor also investigated CSF, and the results consistently diagnose meningoencephalitis.

Prognosis

The AIDS-dementia combination can be lethal if A.R.T. is not administered within a year. The modality and severity of neuropsychiatric symptom patterns are determined by the kind of A.R.T. administered. According to several studies, neurocognitive impairments in an H.I.V. patient predicts higher death.

Therapeutic interventions

Tertiary HAART management

HART has been demonstrated to assist people with H.I.V. encephalitis. Because of the efficiency of A.R.T. in these individuals, the prevalence of AIDS dementia has decreased while HIV-associated dementia has grown. The doctor suggested more research. The doctor recommended more inquiries since the patient reported discomfort. The patient has been diagnosed with H.I.V. Sputum was collected and tested as part of a complete examination of the allegation. According to the reports and cardiac charting, the patient was first identified as having respiratory failure. The results of the doctor's examination of the CSF were consistent in identifying meningoencephalitis. Treatment can be tailored to deliver the most benefit after considering both the C.N.S. penetrance impact and the specific patient profile.

Medical management

1. Antibiotic therapy includes M.P.S. Injections and Ceftriaxone injections.

2. Bactericidal: Inj dexamethaxone IV , Inj Rifampin

3. Bronchodilators: Asthalin and salbutamol injections

4. Oxygen therapy [as directed by your doctor with a ventilator]

Nursing management

- Admission of the patient
• Administer all the prescribed medication.
• Cardiac monitoring
• Intake and output charts
• I checked vital signs.
• Perform all investigations and tests advised by doctors with proper consent.
• Given patient risk assessment.
• Give all IV fluid according to the doctor's advice.
• Give psychological support to the patient.
• Maintained all the documentation for the patient.
• A universal precaution sign should be attached to the patient's bed to alert everyone.

Followup and outcome

An interprofessional healthcare team strategy is most suited to improving patient outcomes when dealing with a patient with H.I.V. encephalitis. This team, which consists of physicians, specialists, pharmacists, and nurses, works together and communicates across disciplines to provide the best possible treatment. The best management of individuals with H.I.V. encephalitis involves consultation with an infectious disease expert for quick and effective A.R.T. delivery and a neurological specialist for thorough evaluation and monitoring of neurocognitive functioning. The most crucial factor influencing outcomes in individuals with H.I.V. encephalitis is the use of A.R.T.

Discussion

Researchers are examining how H.I.V. hastens the aging of the brain and how aging in general impacts the manifestation and symptoms of HAND. Other researchers are trying to figure out how H.I.V.'s genetic variations affect how it affects the brain.[7-24] The National Neuro AIDS Tissue Consortium is a Project that NINDS and NIMH are both fundings.

In some cases, the increase in blood CD4 T cells brought on by HAART causes inflammation in tissues previously harmed by opportunistic infections. However, this condition is the first instance of ARDS related to T.B. Aside from Mycobacterium avium-intracellularulare (M.A.I.), additional infectious agents linked to immune restoration illness include CMV pulmonary and non-pulmonary infections.[25-35]

Conclusion

The patient was apparently alright until he started complaining of loose stool, fever, generalized weakness, and multiple episodes of vomiting. The patient has had a known H.I.V. case for one day, with no history of hypertension, diabetes, tuberculosis, or asthma. The patient's blood pressure is 110/70 mmHg, and the temperature is afebrile. They do not have any physical abnormalities. The spectrum of respiratory ailments linked to H.I.V. infection has changed with the emergence of bacterial pneumonia, sepsis, or non-infectious respiratory issues as frequent causes of severe disease during the past ten years. 50% of H.I.V. patients are not taking HAART when they are admitted to hospital, say experts. The use of A.R.T. significantly affects the course of the illness and its consequences in people with H.I.V. encephalitis.

