

Case Report

Encephalitis with autoimmune disease in pediatric patients General X Hospital Yogyakarta Indonesia: a case report study

Giri Susilo Adi^{1*}, Wiwi Kustio Priliana², Etik Pratiwi², Anisa Guntias Nurzulaekha¹

¹Department of Nursing Management, ²Department of Pediatric, College of Health Science, Notokusumo, Indonesia

Received: 16 March 2020

Revised: 02 April 2020

Accepted: 04 April 2020

*Correspondence:

Dr. Giri Susilo Adi,

E-mail: kangmas.giri@yahoo.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Encephalitis is an infection of brain parenchymal tissue by various microorganisms. In encephalitis inflammation of brain tissue occurs. The purpose of this case study is to introduce the case of encephalitis and nursing care that occurs in children, especially in the area of Central Java as one area in Indonesia. This is a case study; the case was taken from a case of managed patient in the X central hospital. Patient management is carried out for 3 days. A 7 years old pediatric patient coming from neurology poly. One year before the hospital, the child had a seizure of GTC with a duration of 6 hours, was unconscious and then taken to the general hospital after the seizure the child appeared to be hyperactive and had no eye contact. Six months before being admitted to the hospital, the child was taken to the RSA then blood tested and a positive CMV check was performed. The child is then managed as autoimmune encephalitis. nurses perform nursing care for 7 days. Families understand more about the care process in children with encephalitis, especially in terms of infection problems, growth and development, the risk of falls, and drug management. be at home later.

Keywords: Encephalitis, Nursing care, Infection

INTRODUCTION

Encephalitis is an infection of the brain parenchymal tissue by various microorganisms. In encephalitis inflammation of brain tissue occurs. This inflammation can affect the lining of the brain covering the spinal cord. Encephalitis is classified in tropical diseases.¹ Tropical diseases that occur in general, including infectious diseases that are generally the prevalence that occurs in hot weather and humid conditions. The incidence of encephalitis in tropical countries is reported to be quite high at 6.34/100,000 per year.²

The period of encephalitis consists of the inflammatory process of the brain and includes the presence of encephalopathy with two or more symptoms consisting of fever, seizures and/or the presence of neurological

findings; pleocytosis of cerebrospinal fluid. Abnormal electroencephalographic or neuroimaging findings indicate encephalitis. Transverse myelitis (TM) is an inflammation of the spinal cord that has various clinical presentations depending on the degree (severity of myelin and nerve injury) and the location of the spine³. In the condition of autoimmune encephalitis occurs when the brain is inflamed due to immune disorders that are characterized by body cells which attacks the body itself. General X hospital is the central hospitals in Yogyakarta and Java Tengah. In this hospital many infectious children took care to having cured.

CASE REPORT

This research method is a case study. The case was taken from a case of managed patients in the X central hospital,

especially in the infection ward for children. Patient management is carried out for 3 days. In the process of treatment, researchers work closely with the medical team, nurses, and also the nutrition team to achieve patient recovery rates.

Central hospital X is a national level referral hospital located in the city of Yogyakarta. In this hospital there are various kinds of pediatric patients with infectious diseases, including HIV AIDS, pneumonia, bronchopneumonia, typhoid fever, meningitis, and encephalitis.

A 7 years old pediatric patient comes from neurology poly with autoimmune encephalitis and hypercholesterolemia. the patient is currently undergoing a 7 months protocol period. The history of the disease now is one year before the hospital, the child has a GTC seizure with a duration of 6 hours, is unconscious and then taken to the Batang General Hospital and performed a head NCT. The client was given antibiotics for 2 weeks and the child was suspected of having Tuberculus meningoencephalitis. But the Mantoux test results are negative. BTA sputum negative, thorax RO negative. Clients get FDC OAT therapy for 6 months. 11 months of SMRS, after a seizure the child appears to behave like ADHD and there is no eye contact. Six months before being admitted to the hospital, the child was taken to the RSA and then checked for blood and a positive CMV check was carried out, then the child received gancyclovir therapy for 8 days, when it was also examined by ANA IF and the results were positive. The child is then managed as autoimmune encephalitis. The child is given mp pulse da cyclomesna for months. One week at the hospital, the child increasingly behaves rudely, often hitting his head and biting his own fingers. Days before hospital admission, home stay, control child to neuro poly and immunology child.

The history of pregnancy and birth is the mother of a pregnant child at the age of 25 years and during pregnancy the mother adheres to the control and maintaining the child's health. Nutrition assessment results: children eat 3 times a day with the main menu of vegetables and side dishes and 2 times snacks. Children get quality sleep breaks from 9 pm to 6 am. The patient has no bowel or urination problems. Stool consistency is brown in color, characteristic of stool odor. Patients urinate approximately 700 cc per day in yellow, while in the client's hospital wearing pempers.

At present the client is cared for by his own parents with a good relationship with parents, before sick children are cheerful, smart and sociable. Currently the child has cognitive and perception disorders, including hearing loss. The results of physical examination of children with TB 129 cm with body weight 30.5 kg.

Table 1: Treatment therapy tables.

S. no	Drug name	Dosage
1	Respiridon	0.5 mg/12 hours
2	Atorvastatin	5 mg/24 hours
3	Phenitoin	100 mg/12 hours
4	Metilprednisolon	8-4-0 mg

Table 2: Table of laboratory testing results.

Pemeriksaan	Hasil
Liver: SGOT/AST	14 U/l
Kidney: Creatinin	0.46 mg/dl
BUN	12.8 mg/dl
Electrolyte	
Sodium	139 mmol/l
Potassium	3.66 mmol/l
Chloride	103 mmol/l
Calcium	2.27 mmol/l
Hematologi examination	
Leukocytes	6.78×10.000/l
Erythrocytes	5.28×10.000.000 mcl
Hemoglobin	14.8 g/dl
Hematocrit	44.7%
Platelets	307.000 per microliter of blood.
Platelet distribution width	8.8
Neutrophil	63.6%
Lymphocytes	28.0%
Immunology examination	
Anti nuclear antibody	Positive
IgG with imunoturbidmetri metode	876.0
Anti streptolisin O	Negative
IgM anti CMV	Negative
IgM anti HSV1	Negative
IgG anti CMV	Negative
IgG anti HSV 1	Negative
IgM anti HSV2	Negative
IgM anti HSV2	Negative
Radiologi X foto thorax supine	-
The heart seems to be enlarged	-
Overview of bronchopneumonia	-
Multislice computerized tomography (MSCT) with contrast	Gyral enhancement in the right parietal lobe and left and right occipital lobe: tend to be meningitis and there are signs of increased intracranial

The condition of the eyes, nose, mouth, ears, and clean arch were no complaints. Chest, heart, lung, stomach, and muscle strength results are also normal with results 5. The

patient's pulse is 96 times per minute, temperature: 36.3 C, and respiration: 24 times per minute. Falling scale assessment using the humpty dumpty scale shows the assessment score is 16 which is a high risk.

DISCUSSION

Patient nursing care

From these data nurses determine 3 nursing problems, plans and results of patient management, including the risk of ineffectiveness of brain tissue perfusion.⁴ The aim of the nursing diagnosis is that there is no increase in ICT (intra-cranial pressure), and vital signs of children within normal limits. Nursing interventions planned are as follows nurses plan to manage edema by monitoring vital signs, monitoring neurological status, monitoring respiratory status, positioning the head >30 degrees, monitoring increasing ICT (intra-cranial pressure), advising families to report if it occurs increasing ICT, collaborating on providing anti-seizure drugs. Providing education to families in managing seizures at home in children, encourages families to reduce heat in children if the child is hot.^{5,6} Nurses manage these activities and obtained an evaluation of patients not experiencing allergies, no signs of redness, itching and not vomiting, the patient's temperature is 36.6 °C, N 96 × per minute, and RR 24 times per minute. The patient's muscle strength is 5, the patient's consciousness is apathetic with a GCS score of 12 consisting of E4V3M5. The nurse plans to continue the nursing intervention.

The second nursing problem is the risk of infection associated with immunosuppression and invasive procedures.⁴ The goal of achieving a nursing diagnosis of infection risk is that the patient does not experience signs of infection, the patient is able to identify risk factors, and the patient is able to carry out risk control strategies.^{5,6} Nurses carry out nursing interventions including carrying out a series of infection protection activities that consist of monitoring signs of infection, replacing IV lines if necessary, infusing dressings, changing linens, nurses recommend washing hands with 6 steps correctly, nurses in carrying out actions using aseptic septic principles by limiting visitors to the hospital to collaborate on providing immunosuppressants and overcoming inflammation and IV IG protocols, nurses recommend that families increase their intake of nutrients, fluids and rest. The nurse did the treatment for 3 days and found the results of the IV puncture area were dry, clean, no seepage, no edema, no redness.

The third nursing problem is the risk of falls associated with neuropathy.⁴ The purpose of establishing this diagnosis is so that the problem of falling risk can be

overcome by preventing falling by means of the bed wheels always locked, handrails attached and the patient remaining calm.^{5,6} Nurses carry out several nursing interventions including identifying the environment that endangers the patient, locking the bed wheels, installing hand rails, encouraging families to monitor patients, collaborating with families about preventing the risk of falls and providing adequate lighting. As a result of the intervention the patient said that the mother always monitors the child and never leaves the patient alone, he always entrusts the nurse when leaving the child. Mother tried to keep the hand rail installed and the bed wheels locked. After treatment for 3 days the patient still has not shown an indication of recovery. Patients still need further treatment, so nurses delegate tasks both medical care and nursing care.

CONCLUSION

Nurses perform nursing care for 7 days. Families understand more about the care process in children with encephalitis, especially in terms of infection problems, growth and development, the risk of falls, and drug management.

ACKNOWLEDGEMENTS

We thank our nurses, doctors, and also the care team who assist in the process of retrieving the data in this case study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Bare S. Surgical Medical Nursing Text book. Brunner & Suddart 8th Ed. Jakarta: EGC; 2013.
2. Mansur A. Capita Selecta Medicine. 3rd Ed Jilid 2. Jakarta: Media Aesculapius; 2010.
3. Silva S, Richards A. Encephalitis and Myelitis in tropical countries: report from the task force on tropical diseases. The World Federation Societies Intensive Critical Care Med; 2017.
4. Herdman TH. NANDA International Inc. Nursing Diagnosis: Classification and Definition, Jakarta: EGC; 2015.
5. Pokja Team. Indonesian Nursing output Standards, Definitions and Criteria of Nursing Outcomes.1st Ed. Jakarta: DPP PPNI; 2018.

Cite this article as: Adi GS, Priliana WK, Pratiwi E, Nurzulaekha AG. Encephalitis with autoimmune disease in pediatric patients General X Hospital Yogyakarta Indonesia: a case report study. Int J Community Med Public Health 2020;7:1987-9.