

RESEARCH PROGRESS IN NURSING OF CHILDREN WITH INCOMPLETE KAWASAKI DISEASE

ABSTRACT

Objective: To explore how to care for coronary artery disease caused by incomplete Kawasaki disease (IKD).

Methods: To study the nursing of incomplete Kawasaki disease caused by coronary artery disease by referring to relevant literature. Through the analysis of the existing domestic and foreign literature, it is found that correct and timely nursing plays a vital role in the treatment of incomplete Kawasaki disease.

Results: Clinical practice showed that timely and effective nursing measures are the important means to treat incomplete Kawasaki disease. Eye care, skin care, and fever care can reduce the pain caused by the disease.

CONCLUSION

Correct, effective and timely nursing measures play an important role in the treatment of incomplete Kawasaki disease.

KEY WORDS: Incomplete Kawasaki disease; Coronary artery disease; Drug efficacy; nurse

INTRODUCTION

In recent years, the prevalence of incomplete Kawasaki disease (IKD) is increasing year by year. We aim to study which timely and effective nursing measures can alleviate the suffering of children with incomplete Kawasaki disease, and summarize important nursing measures by reviewing relevant literature at home and abroad. At present, the research on incomplete Kawasaki disease in China is limited[2], so how to care for children with incomplete Kawasaki disease is the significance of our research. In this study, the symptoms of incomplete Kawasaki disease were targeted from multiple dimensions to reduce the discomfort of patients during the treatment of Kawasaki disease.

Comment [m1]: Reference?

1, CLINICAL MANIFESTATIONS

Main manifestations: If the fever persists for 5 days or more, or the fever duration is less than 5 days, and there are 2 or 3 of the 5 main clinical features, and there are clear echocardiographic changes in coronary artery lesion(CAL), namely (1) left or right coronary artery Z-value ≥ 2.0 or (2) coronary artery characteristics that meet the CAL related criteria (inner diameter >3 mm in <5 years old, inner diameter >4 mm in ≥ 5 years old, and/or adjacent inner diameter dilation ≥ 1.5 times or obvious irregularity in the lumen), the diagnosis is IKD[2].

Comment [m2]: What do you mean?

2, NURSING OF IKD

(1) Nursing evaluation

Evaluation is the first step in the care of a child with IKD. This includes the general condition of the child (such as age, weight, nutritional status, etc.), the severity of the disease (such as fever, skin mucosal lesions, etc.), and whether there are other complications.

(2) Eye care

Bilateral conjunctivitis presents as non-suppurative and painless conjunctivitis, more often invading the conjunctivitis of the eyeball. Clean the child's eye secretions every morning, do not wipe with too rough towels, use sterile cotton swab or sterile gauze to clean, wipe the process gently. When the conjunctiva is red, the eyes

should be kept clean, do not rub the eyes with your hands, do not use the eyes excessively during the onset of the disease, inform parents to limit the time for children to watch mobile phones, computers and other electronic devices, but also pay attention to protection when going out[4], wear sunglasses to reduce sunlight on the eyes. Eye drops can be used as directed by a doctor when the eyes are excessively dry and uncomfortable.

(3) Oral care

The mouth and lips show diffuse mucosal inflammation^[3], which is manifested as red and swollen oral mucosa, and red, swollen and cracked strawberry tongue and lips. It is necessary to communicate with the families of the children, strengthen the attention of the children and their families to oral health, keep the oral mucosa clean, brush the teeth with soft hair sponge if the oral mucosa is not damaged, and avoid overheating or irritating food in daily diet. If the mouth has a rupture, can not be stimulated with a toothbrush, should gargle frequently, to eat that is, gargle, diet use liquid food, pay attention to the child's feeling of temperature is more sensitive than adults, so the diet can not be too hot, you can test the temperature on the inside of the wrist, appropriate after eating. Dry lips, rub paraffin oil to protect and moisturize, do not forcibly tear off the dead skin to avoid bleeding.

(4) Skin care

Children with incomplete Kawasaki disease may develop urticaria, rash, papule, erythema pleomorpha and, less frequently, micropustular rash on the extremities and trunk. In the care of the skin, fingers and toes, it is necessary to maintain the clean and dry body and the integrity of the skin. The length of the fingernails of children should be checked regularly to avoid infection caused by itching and scratching the skin. Clothing should be made of cotton and loose format to reduce friction to the skin. When the skin itch is unbearable, it can be relieved by distraction. When the joints of fingers and toes are red and swollen, a hot compress can be used to reduce the pain. Patients should rest in bed as much as possible and have a support if they need to move their limbs.

(5) Fever care

Children with incomplete Kawasaki disease need to have fever for 5 days before diagnosis. During this period of waiting for diagnosis, family members will be full of anxiety and anxiety. Psychological comfort will be given to family members and children, and explanations of disease-related knowledge will be made to relieve tension. During the fever period, the temperature change was closely detected, the temperature was measured every hour, and the heat type of the child was analyzed. The temperature of the environment was 22 ~ 24 degrees Celsius and the humidity was 55% ~ 56%. If antipyretic medicine is given, retest the temperature after half an hour. When fever and chills, give warm water and warm water intake; When extremities are warm, give a head pillow ice pack or warm water to wipe the neck, armpit, groin area. In general, children with fever often accompanied by crying will lead to increased oxygen consumption of the body, especially when the child is complicated with coronary artery damage, it is necessary to ensure that the child has sufficient rest^[4], reduce oxygen consumption of the body and protect the heart. For crying children can be given distracting objects, listen to soothing music or nursery rhymes.

3, NURSING OF CAL CORONARY ARTERY DAMAGE

(1) Early detection and early treatment

Young age and long fever time before intravenous gamma globulin application are high risk factors for incomplete Kawasaki disease complicated with coronary artery damage. Clinical attention should be paid to the results of cardiac color ultrasound Doppler for timely diagnosis and early control of the disease in young children with incomplete Kawasaki disease. In daily nursing work, we should do daily health education, explain relevant knowledge to families and attract attention, in order to better obtain the cooperation of families, complete relevant examinations, and achieve early detection and early treatment.

(2) Condition observation

When a child with IKD has coronary artery damage, the vital signs, mental state, consciousness and urine volume of the child should be closely monitored, and the doctor should be informed immediately when the condition changes^[5]. In case of symptoms such as arrhythmia, emergency supplies should be prepared in advance.

(3) Medication

High dose gamma globulin combined with aspirin can reduce the incidence of coronary artery damage and myocardial infarction. Remember to use the drug reasonably, otherwise it will aggravate the disease. It should be noted that the infusion speed should be strictly controlled when intravenous infusion, so as to avoid excessive speed, aggravate the heart load and easily induce heart failure. Frequent inspection to prevent fluid leakage. After KD diagnosis, it is recommended to start high-dose IVIG treatment as soon as possible. Recommended dosage and course of treatment: Single dose IVIG (2 g/kg) is usually administered intravenously within 12-24 hours. The recommended initial infusion rate is 0.01 mL/(kg · min) [5% IVIG 30 mg/(kg · h)], maintained for 15~30 min, then increased to 0.02 mL/(kg · min), if the tolerance is good, it can be adjusted to 0.04 mL/(kg · min), and finally adjusted to the maximum speed of 0.08 mL/(kg · min)[2].

(4) Diet

During treatment, children can reduce appetite due to oral pain, light food, increased body consumption and other factors can lead to malnutrition in children, in the diet should choose a high-protein, high-calorie, high-vitamin diet, a small number of meals. When the appetite is decreased, you can eat some acidic foods appropriately to enhance the appetite. Children are also easy to eat some indigestible snacks can cause constipation, family members should be informed to strengthen the management of children's diet, if constipation, when going to the toilet need to inform patients and family members can not be too hard, to avoid increasing the heart load.

(5) Reduce stimulation

Daily bed rest should be avoided, strenuous exercise, emotional excitement, excessive stimulation will increase the heart load and easily lead to different degrees of arrhythmia, severe cases of coronary artery rupture and death. During treatment, static activities can be performed, such as building blocks, puzzles, etc.

(6) Health Education

Parents should have the confidence to overcome the disease and cooperate with the doctor for correct treatment. Pay attention to rest, avoid strenuous exercise, and take medicine on time and according to dosage. Reasonable diet, give easy digestion, high protein, rich in vitamins food. Explain the illness to parents in time, and give psychological support. Parents should be instructed to observe the condition and take the children to re-check regularly. For children without coronary artery disease, a comprehensive examination should be conducted at 1 month, 3 months, 6 months, and 1 year after discharge. There was close follow-up for coronary damage.

3, Conclusion

Through the analysis and summary of actual cases, we can find that for the care of IKD children, correct evaluation, timely medication^[6], close monitoring of vital signs, reasonable diet and nutrition management, effective skin and mucosa care, active complication prevention, as well as adequate psychological support and family education guidance are crucial. At the same time, we also need to continuously optimize and improve the nursing workflow and methods in practice, and improve the quality of nursing to better meet the needs of children.

Reference

- [1] Blaney M M, Williams R V, Areinamo I A, et al. The impact of the American Heart Association guidelines on patients treated for incomplete Kawasaki disease[J]. *Cardiology in the Young*, 2022, 32(7): 1066-1070.
- [2] Center for Diagnosis and Treatment of Kawasaki Disease/Children's Hospital of Shaanxi Provincial People's Hospital; National Children's Medical Center/Beijing Children's Hospital, Capital Medical University; Children's Hospital, Shanghai Jiao Tong University School of Medicine; National Regional Medical Center/Shengjing Hospital of China Medical University; National Clinical Key Specialty/Department of Intensive Care Medicine, Shanghai Children's Hospital; Hospital; General Pediatric Group of Pediatrician Branch of Chinese Medical Doctor Association; Expert Committee of Advanced Training for Pediatrician, China Maternal and Children's Health Association; National Health Commission Key Laboratory for Tropical Disease Prevention and Control; Yan'an University Affiliated Hospital; Editorial Department of Chinese Journal of Contemporary Pediatrics. Evidence-based guidelines for the diagnosis and treatment of Kawasaki disease in children in China (2023). *Zhongguo Dang Dai Er Ke Za Zhi*. 2023;25(12):1198-1210.
- [3] Rowley A H, Gonzalez-Crussi F, Gidding S S, et al. Incomplete Kawasaki disease with coronary artery involvement[J]. *The Journal of pediatrics*, 1987, 110(3): 409-413.
- [4] Giannouli G, Tzoumaka-Bakoula C, Kopsidas I, et al. Epidemiology and risk factors for coronary artery abnormalities in children with complete and incomplete Kawasaki disease during a 10-year period[J]. *Pediatric cardiology*, 2013, 34: 1476-1481.
- [5] Perrin L, Letierce A, Guitton C, et al. Comparative study of complete versus incomplete Kawasaki disease in 59 pediatric patients[J]. *Joint Bone Spine*, 2009, 76(5): 481-485.
- [6] Cho K H, Kang S J. Clinically useful predictors of resistance to intravenous immunoglobulin and prognosis of coronary artery lesions in patients with incomplete Kawasaki disease[J]. *Korean circulation journal*, 2014, 44(5): 328-335.