

Management of a Patient with Glenn Shunt

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Abstract

Introduction: The Glenn and Fontan procedures are still the two most popular operations for those with a single ventricle. Some people may be difficult to treat because of their cardiopulmonary anatomy. This article describes the Glenn shunt procedure in a patient with a single pulmonary artery and a hereditary lung. Main diagnosis, therapeutic intervention, and outcome: After a physical examination and inquiry, the doctor diagnosed the patient with Ischemic Stroke and prescribed analgesics to relieve the pain. Antipyretic medications are used to lower fever. Therapeutic intervention: This patient was administered Glenn shunt antipyretics for 7 days, including Tab. paracetamol 500 mg (BD), Inj. Ceftriaxone 1 gm IV (BD), Inj. Pantoprazole 40 Mg iv (OD), and Inj. Ondansetron 4MG iv (TDS). Outcome: The patient was given medications prescribed by the doctor, such as paracetamol. In addition, the patient's condition improved as a result of the medical treatment. The patient's problems had subsided, and he was in better shape. Nursing perspectives: - DNS and RL were used to administer fluid replenishment. Check vital signs and blood pressure every hour. Maintaining the patient's intake and output chart, as well as ensuring that he or she gets enough rest and sleep. Administered drugs as directed by the doctor. Because the patient had a fever, he was given hydrotherapy. Conclusion: The patient was hospitalized to A.V.B.R.H. with bradycardia, exhaustion, weakness, gait trouble, impaired balance and coordination, fever, chills, headache, and other symptoms. In this case of heart illness, the patient received the necessary treatment and medication. The patient's health has improved.

Key words: Glenn shunt • Pulmonary artery • Single lung • Single ventricle

Introduction

Despite breakthroughs in science, single ventricular heart abnormalities are rarely changed to biventricular anatomy in today's world. For individuals with single ventricular heart disease, the Glenn shunt followed by the Fontan operation remains the best therapy or rather palliation option. Despite breakthroughs in science, single ventricular heart abnormalities are rarely changed to biventricular anatomy in today's world. For individuals with single ventricular heart disease, the Glenn shunt followed by the Fontan operation remains the best therapy or rather palliation option [1].

In some cases, extracardiac anatomy can be convoluted, complicating surgical operations. A Glenn shunt procedure in a neonate with a single lung is described in this paper. In some cases, extracardiac anatomy can be convoluted, complicating surgical operations. A Glenn shunt procedure in a neonate with a single lung is described in this paper [2].

The unidirectional Cavo pulmonary connection, also known as the Glenn procedure, is used to eliminate the volume load from the circulation. There is no longer a large left-to-right volume overload after the bidirectional Cavo pulmonary connection, and hence the fundamental source of heart problems in the univentricular shunted circulatory is resolved. As a result, heart failure is rarely a significant hallmark of patients with a bidirectional Cavo pulmonary link. However, even after the circulatory revision, a fraction of patients who have this procedure may have persistent atrioventricular or semilunar valve insufficiency or cardiac failure. There are persistent heart failure findings in such patients, with respiratory symptoms, and failure to thrive is the most typical manifestations of heart problems. The intensity of symptoms varies, just as it does with biventricular heart failure. Patients' exertional power is generally limited at this stage due to the mandatory cyanosis caused by the bidirectional Cavo pulmonary link, which can make determining the severity of heart failure difficult. Clinical judgment is required to determine the relative contributions of heart failure and cyanosis [3].

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The Glenn operation requires babies to stay in the hospital for 1 to 2 weeks to recover. They are looked after and monitored 24 hours a day, seven days a week. They're also given medications to aid their hearts and blood flow. They'll continue to take some of these medications at home [4].

The care team instructs parents on how to care for their infant at home during this period. When babies are feeding well, growing well, and putting on weight, they can generally go home [5].

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Following heart surgery, many children thrive and do well. They'll need to see a cardiologist regularly, as well as have EKGs, echocardiography, lab tests, and cardiac catheterizations on occasion. Cardiac catheterization is a procedure that allows cardiologists to examine and treat the heart's function [7].

Patient Information

A 5-year-old boy was admitted. After a physical examination and investigation, the doctor identified a case of Glenn's shunt with the predominant symptom of weariness, weakness (mostly in the lower extremities), problems with gait, decreased balance and coordination, fever, headache, chills, myalgias, and arthralgias.

Medical history: On Jun 20th, 2021, a patient was admitted to the A. V. B. R. hospital. The patient had a history of frequent alcohol consumption and Ischemic Stroke for 3 years. He had fever, headache, chills, myalgia, and arthralgia five days before admission, and he took acetaminophen at regular doses on his own.

He had diffuse stomach discomfort, frequent vomiting, hematemesis, epistaxis, and diarrhea on the fourth day of symptoms after his fever and headache had subsided. He had diffuse stomach discomfort, frequent vomiting, hematemesis, epistaxis, and diarrhea on the fourth day of symptoms after his fever and headache had subsided.

The present case had a history of Glenn shunt.

Family history: He belongs to a nuclear family. His father breadwinner of the family. In the patient's family, there is no hereditary history like DM, Asthma, and Hypertension, etc.

Psycho-social history: He was mentally stable, conscious, and oriented to date time, and place. He had maintained a good relationship with doctors and nurses as well as other patients also.

Clinical finding

Physical examination: The patient was awake and aware of the time, date, and location. His physique was average, and he kept himself clean. For three days, I've had a broad body soreness and a high fever (the highest recorded temperature was 39.4°C). He was determined to be aware (Glasgow Coma Scale 15), with a pulse of 100 beats per minute and blood pressure of 100/60 mmHg on physical examination. -20 breaths per minute no rash or active bleeding was present. Other general and systemic examinations revealed no abnormality. The diagnosis on admission was Glenn's shunt.

Important clinical findings: Blood Investigation: WBC: <5000 cells/mm³. RBC: 20,000-40,000 (cells/mcL), IgM and IgG test: Positive, Platelet count: 12,000 cells/mm³.

Timeline: He took treatment in A. V. B. R. H. and he got the proper treatment. Taking proper medication and now he has been in good condition.

Therapeutic interventions

Antipyretics for Ischemic Stroke, including Tab. paracetamol 500 mg (BD), Inj. Ceftriaxone 1 gm IV (BD), Inj. Pantoprazole 40 mg iv (OD), and Inj. Ondansetron 4 mg iv was prescribed in this instance (TDS). Antipyretics for Ischemic Stroke, including Tab. paracetamol 500 mg (BD), Inj. Ceftriaxone 1 gm IV (BD), Inj. Pantoprazole 40 mg iv (OD), and Inj. Ondansetron 4 mg iv was prescribed in this instance (TDS).

Nursing perspectives

DNS and RL check vital signs on an hourly basis to administer fluid replacement. The temperature chart was meticulously maintained every two hours, and the intake output chart was meticulously maintained. Antibiotics, tab. paracetamol, as prescribed by a physician. DNS and RL check vital signs on an hourly basis to administer fluid replacement. The temperature chart was meticulously maintained every two hours, and the intake output chart was meticulously maintained. Antibiotics, tab. paracetamol, as prescribed by a physician.

Discussion

The congenital cardiac disease affects about 2.5–3/1000 live births, with palliative treatments being one of the therapeutic options. Dr. William Glenn conducted the first Glenn shunt technique in 1958, and it is now a valuable palliative treatment for patients with single ventricle heart disease [4].

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A phased approach is the conventional surgical therapy for single-ventricle congenital heart abnormalities. Palliative operations are required because of increased pulmonary vascular resistance. It is required to prepare the patient for the Fontan procedure and to ensure that the patient survives [6].

The Glenn shunt is one of the most important milestones on the way to the Fontan operation. It's necessary to get the patient ready for the Fontan treatment and make sure he or she survives. The Glenn shunt is one of the most important milestones on the way to the Fontan operation. It lowers pulmonary vascular resistance and alleviates ventricular volume overload, allows for long-term life and stage palliation in single-ventricle heart defects, one-and-a-half ventricle physiology, and, in some cases, a bridge to two-ventricle restoration. Although having a single lung would not be a contraindication for the treatment, the pulmonary vascular state is one of the most important factors in achieving the best results, and the operation requires extra attention. Although having a single lung is not a contraindication for the treatment, pulmonary vascular status is one of the most important criteria for achieving the best results, and the operation deserves special care. Only a few cases of Fontan operation with a single lung have been documented in the literature. The main difference

between patients with confluent pulmonary artery to the lungs and those with single lung was discovered to be the one-lung individuals decreased postoperative oxygen saturation [8].

The Fontan operation was successfully performed with an acceptable outcome in some patients even when only one lung was present. Glenn shunting to one lung has been shown to cause late problems such as congenital anomalies and impaired pulmonary functional ability in some long-term studies. Hypoxia, metabolic acidosis, and higher airway pressure can all lead to pulmonary vasoconstriction and high pulmonary vascular resistance. One-lung breathing is thus one of the most important events, and nitroglycerin, inhalation nitric oxide, and intravenous milrinone can be used to lower pulmonary vascular resistance. The pulmonary artery and lung of our patient were both single. We chose to conduct a Glenn shunt as a prelude to the Fontan treatment after a careful study of the case and the family's agreement. The operation was uncomplicated and straightforward; nevertheless, the patient required additional chest physiotherapy in the postoperative phase to maintain a 94% arterial oxygen level [9].

Conclusion

The Glenn shunt continues to provide excellent graded palliation and a bridge to two-ventricle correction in single-ventricle patients. The single-ventricle cohort had a lot of arrhythmias and pulmonary arteriovenous fistulas. The surviving patients' quality of life would be an essential outcome measure for further research.

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