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Case Report on Management of Case of Larger Muscular VSD with Lt to RT Shunt, Severe PAH

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ABSTRACT: -

Overview

A gap or flaw in the wall that connects the lower chambers of the heart is called a ventricular septal defect. These chambers are called ventricles, and the wall dividing them is called the ventricular septum. Ventral septal defects in children can be single or multiple. Ventral septal defects have been linked to more complex heart conditions such as major vessel transposition and Tetralogy of Fallot. This page's content is intended for people with ventricular septal defects who otherwise have healthy hearts. Ventricular septal defects can be classified as muscular, supracristal (infundibular or subpulmonic), membranous, or perimembranous.

Main symptoms and importance of clinical findings: He is a case of 8 month old He underwent surgery for a coronary artery bypass graft. The patient is receiving multiple investigations, including an electrocardiogram, blood tests, physical exams, and ECGs.

The primary diagnosis, treatment strategies, and result: The patient received injections of Neomol, amoxicillin type synthesis, nebulization of regular saline, Nesocler augmentin as a medical treatment. He was undergoing treatment, and things were going well. The patient took prescription drugs as directed by the physician, including antipyretics for fever treatment. Additionally, the patient's condition improved under medical care. The patient's symptoms have now subsided, and his condition has improved.

Nursing perspective:

As part of the medical treatment, the patient received injections of Neomol, synthetic amoxicillin, nebulized normal saline, Nesocler drop, and synthetic augmentin. Things were going well for him while receiving treatment. The patient followed the doctor's instructions and took prescription medications, including antipyretics for fever treatment. The patient's condition also got better while receiving medical attention. Now that the patient's symptoms have decreased, his health has improved.

Conclusion:

The patient's primary complaints upon admission to the hospital were tachypnea, excessive perspiration on the head during feedings, fever, cough, and increased breathing effort for the previous two days. The patient received antipyretic medication to bring down the fever.

Key words:- Inability to flourish, significant VSD, severe PAH, and trans catheter closure

Overview:

About 10% of adults have respiratory hypertension (PH), a typical side effect of congenital cardiac conditions (CHD). When a right cardiac catheterization is performed, When measured during rest, it is defined as a mean pulmonary arterial pressure (PAPm) of less than 25 mmHg. A subset of Precapillary

pulmonary hypertension (PAH) is the term used to describe PH patients who have been diagnosed with pulmonary arterial hypertension. To rule out other possible causes of precapillary PH, A pulmonary artery wedge pressure of 15 mmHg and a pulmonary vascular resistance (PVR) greater than 3 Wood Units are necessary in certain situations, such as lung disease or persistent thromboembolic pulmonary hypertension.

The most common congenital cardiac anomaly in children is a ventricular septal defect (VSD), while bicuspid aortic valves are the second most common in adults. The development of a shunt is the due to faulty communication between the ventricles on the right and left, which is the fundamental mechanism underlying the hemodynamic compromise seen in VSD. Serious defects may cause problems like ventricular dysfunction, pulmonary arterial hypertension (PAH), and an increased risk of arrhythmias, even though the majority of VSDs close on their own. In 1847, Dalrymple made the initial discovery of VSDs.

Generally speaking, a ventricular septal defect's size corresponds to its severity. In children or infants, Small defects in the ventricular septum do not produce symptoms And medical intervention or surgery is rarely necessary. Most muscle VSDs close on their own during early life. Membranous VSDs have the ability to close at any time in the event of a ventricular septal aneurysm. Little ventricular septal abnormalities should not affect the child's growth and development. Six

Patient information:-

Demographic details

An 8-month-old boy who underwent a coronary artery bypass graft procedure was admitted for additional care.

Patient's main worry and symptom:

The patient was examined or given a hospital admission. in the outpatient department (OPD) due to a fever, cough, dyspnea, and increased respiratory effort for the past two days.

Medical background:

The patient's main complaints upon admission to the hospital were a fever, cough, and increased breathing effort for the past two days, excessive head sweating during feedings, and tachypnea.

Surgical history: The 8-month-old boy has never had any prior surgery.

Relevant prior intervention and results: Not disclosed

His background in family and psychology is as follows:

He was raised in a nuclear family with no history of inheritance. He maintained positive relationships at all times and places and was mentally stable, aware, and focused.

Habit: Not at all

Clinical finding:-

Physical examination:-

Physical examination results show that he is 48 cm tall and weighs 3.5 kg. He also has temperature 99 degrees Fahrenheit, pulse 169 beats per minute, respiration 30 breaths per minute, spo2 94, WBC 10900cumm, RBC 5.55, HB% 10.9, and platelets 2.46. There are no bleeding problems or rashes. A child with congestive heart failure will gain weight gradually and breathe and heart faster than usual.

Timeline: The patient was seen in the hospital on the OPD base with a chief complaint of fever, coughing, increased breathing effort, dysphagia, and tachypnea.

Diagnostic Evaluation:

Diagnostic method:

Hb% 10.9, wbc 10900cumm, Rbc 5.55, and platelets 2.46 are the diagnostic parameters. The basic blood gas value, oximetry value, oxygen status, and acid-base status reports from the radiometer ABL800 are all normal.

Prognosis: There is good news for him.

Intervention for therapy:

Nebulization of normal saline, Neomol, syp. amoxicillin, Nesocler drop, syp. augmentin.

Modifications to therapeutic intervention (along with a justification):

Regarding the therapeutic intervention, no modifications were noted.

Subsequent actions and results:

Based on the doctor's advice, the patient's follow-up appointments were scheduled on a regular basis. Most children's symptoms improved following surgery, but not all of them. When a child receives early surgical management—a coronary artery bypass graft—they are less likely to experience problems reproducing and feeding.

Intervention adherence/compliance: Intervention was well adhered.

Adverse events and complications: No adverse events were reported.

Discussion

The prognosis is fair for young children with mild VSD who do not exhibit any symptoms. On the other hand, these children may experience symptoms from anemia, infection, or endocarditis. The patient's chances of recovery are slim if a large VSD is not addressed. Eisenmenger syndrome and pulmonary hypertension arise from a continuation of the shift from left to right. Within the first two years of their livesthe bulk of newborns in North America today have their VSD voluntarily corrected. Less than 1% of patients die, and most recover and lead normal lives. [7]

To halt the advancement of pulmonary vascular disease, left-to-right shunt cardiac anomalies need to be properly managed. 15% (10–18%) of all CHD patients are expected to acquire pulmonary arterial disease. Due to untreated CHD abnormalities, these patients have a left-to-right shunt; as a result, pulmonary flow continuously rises, increasing tensile stress, which raises Rp and eventually results in pulmonary vascular injury [8].

During the neonatal period, Qp rises after Rp falls, causing PAP to rise in HD from left to right shunt. At this point, only increased flow in the presence of low RpI can cause hyperkinetic PH. prolonged tensile strain resulting from elevated pulmonary vascular bed flow results in structural alterations such as luminal narrowing and increased resistance. At the later stages, there is irreversible change.[9]

In contrast to posttricuspid shunts (VSD, PDA), pretricuspid lesions (ASD) are linked to a lower-frequency and later-onset PAH in reaction to the lungs' increased blood flow. VSD and PDA, two posttricuspid shunts, cause volume overload in addition to pressure overload. The magnitude of the defect is just as important as its location. Compared to patients with smaller defects, those with larger defects are more likely to develop PAH. Only 3% of small and medium-sized VSDs develop PAH, but in large defects, the frequency can reach 50%.[10]

The pulmonary resistance index (RpI), which is impossible to measure directly, is computed as the relationship between pulmonary artery flow and variation in pulmonary pressure. Measurements while currently the best tool available, taken during right cardiac catheterization are helpful but not always accurate. Patients may develop chronic postoperative PAH even during the time frame that is thought to indicate a successful surgical outcome. Less invasive and more user-friendly instruments are required, particularly for patients whose hemodynamic profile indicates that they are close to being an operable patient. Recent developments, according to Lévy et al., might raise expectations for new operability assessment tools.[11]

Conclusion:

Current instance the 8-month-old male patient's symptoms, which included fever, coughing, trouble breathing, difficulty feeding, and tachypnea, were alleviated with appropriate care, and the patient is currently in good condition.

The most prevalent kind of ventricular septal defect was discovered to be a per membranous one. Severe pulmonary hypertension is frequently brought on by large ventricular septal abnormalities. The most frequent side effect was severe pulmonary hypertension, which was followed by aortic regurgitation and aortic valve prolapse.

Reference :

1. Hoeper MM. Etal Definition, classification, and epidemiology of pulmonary arterial hypertension. InSeminars in respiratory and critical care medicine 2009 Aug (Vol. 30, No. 04, pp. 369-375). © Thieme Medical Publishers.
2. Ghosh S. Etal Transcatheter closure of ventricular septal defect in aortic valve prolapse and aortic regurgitation. Indian heart journal. 2018 Jul 1;70(4):528-3
3. Hopkins MK Etal Evaluation and management of maternal congenital heart disease: a review. Obstetrical & gynecological survey. 2018 Feb 1;73(2):116-24.
4. Kenny D. Interventional cardiology for congenital heart disease. Korean circulation journal. 2018 May 1;48(5):350-64.
5. Dakkak W etal Ventricular septal defect. StatPearls [Internet]. 2020 Nov 20.
6. Garson A Etal The Science and Practice of Pediatric Cardiology-Volume 2. Williams & Wilkins; 1998.

7. Maagaard M Etal Biventricular morphology in adults born with a ventricular septal defect. Cardiology in the Young. 2018 Dec;28(12):1379-85.

8. .Cevik A Etal Left-to-right shunt with congenital heart disease: single center experience. International Scholarly Research Notices. 2013;2013.

9. .Cevik A Etal Left-to-right shunt with congenital heart disease: single center experience. International Scholarly Research Notices. 2013;2013.

10. Mulder BJ. Changing demographics of pulmonary arterial hypertension in congenital heart disease. European Respiratory Review. 2010 Dec 1;19(118):308-13.

11. Lévy M Etal Impaired apoptosis of pulmonary endothelial cells is associated with intimal proliferation and irreversibility of pulmonary hypertension in congenital heart disease. Journal of the American College of Cardiology. 2007 Feb 20;49(7):803-10.