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Case Report on Tricuspid Atresia

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Case Study

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ABSTRACT

The absence of the tricuspid valve is one of the more unusual types of congenital heart illness. Before the introduction of heart surgery, it was only of scholarly interest, However, now that such conditions may be alleviated medically, the problem has taken on more significance, and every effort must be made to identify the anatomical weakness in cases of congenital cardiac disease.[1]
Clinical Findings: Cyanosis, feeding difficulties, cyanosis, shortness of breath and fast breathing, sluggish development, and a heart murmur are the most common symptoms.
Therapeutic Intervention: Tab .Lasix 40mg OD, dioxin drop0.5ml, Furoped drop 0.5 ml ,Syp A-2.5ML
Outcomes: After treatment, the patient shows improvement. His breathing difficulty and heart rate arebeing improved.
Conclusion: My child was admitted to the AVBRH's pediatric ICU with cyanosis of blurred vision and breathing difficulties. His condition has improved upon obtaining adequate therapy.

Keywords: Cyanosis; congenital heart disease; feeding difficulties; tricuspid atresia.

[1] *Rao, "Management of Congenital Heart Disease."*

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1. INTRODUCTION

The total incidence of congenital heart illness, let alone tricuspid atresia, has no credible estimate. Without a post-mortem study, many babies with tricuspid atresia have surely died, many of them succumb to illnesses such as pneumonia, meningitis, and septicemia with simply a diagnosis of congenital heart disease or even unrelated conditions. Sieveking (1854) appears to be the first occurrence, and around 50 cases have been documented since then[2]. In a study of 1,000 instances of congenital cardiac illness, researchers discovered that Abbott (1936) discovered 16 incidences of developing tricuspid atresia. Szypulski (1937) discovered 111 people with congenital cardiac [3] At the Philadelphia General Hospital, 7,500 necropsies were performed, but none of them revealed tricuspid atresia[4]. Similarly, Rannels and Propst (1937) discovered no case of congenital heart disease in 4,255 necropsies at the University Hospital of Pennsylvania with 36 cases of congenital heart disease[5] [1-10].

2. CASE PRESENTATION

2.1 Patient Identification

On the 25th of May 2021, a 2-year-old boy from Yavatmal was taken to the pediatric ICU at AVBRH with cyanosis and respiratory difficulties.

2.2 Present Medical History

On the 25th of May 2021, a 2-year-old boy was brought to AVBRH by a relative with a headache, eyesight trouble, and fever, and he was admitted to the pediatric ICU. After investigation he is diagnosed with tricuspid atresia [11-15].

2.3 Past Medical History

My patient does not have any past medical history treatment, he does not have a disease like DM, hypertension or any allergy etc.

2.4 Family History

There are four members in the family. The type of marriage of the parents is non-consanguineous marriage. All other members of the family were not having complaints about their health except for my patient who was being admitted to the hospital [16-20].

2.5 Past Intervention and Outcomes

Patient did not take any treatment for congenital heart disease. As breathing difficulty, they then went to private clinics from where he was referred to AVBRH for further treatment.

3. CLINICAL FINDINGS

Cyanosis, feeding problems, cyanosis, shortness of breath and quick breathing, sluggish development, and a heart murmur are all symptoms of cyanosis [21-26].

3.1 Etiology

The following are some of the risk factors for tricuspid atresia:

- Down syndrome.
- A parent who was born with a congenital cardiac problem
- A mother who contracted a viral infection (especially German measles) while pregnant.
- While pregnant, I drank too much alcohol.
- Has diabetes that isn't being managed appropriately.
- Medicines such as anti-seizure or acne medications were used throughout pregnancy.

3.2 Physical Examination

There is not many abnormalities found in the head-to-toe examination, the patient is thin and has dull look. Though it is found that patient has tricuspid atresia.

3.3 Diagnostic Assessment

Blood test: Hb-15.9%, Total RBC count 5.0 millions/cu.mm, RDW - 18.2%, HCT - 20%, Total WBC count-3200/cu mm, RDW - 18.2%, HCT - 20%, Total WBC count-3200/cu mm Monocytes: 2%, Granulocytes: 20%, Lymphocytes: 77%, AST (SGOT): 112U/L, MCV:45.1, MCH:77.7, 1.5 lakh platelets, Vit-d –80.5, T3 –80.5

[2] *Warren, "The Evolution of the Sanatorium."*
[3] *"Tricuspid Atresia - Symptoms and Causes."*
[4] *"Tricuspid Atresia | CS Mott Children's Hospital | Michigan Medicine."*
[5] *Hoffman and Kaplan, "The Incidence of Congenital Heart Disease."*

3.4 Therapeutic Intervention

Tab. Lasix 40mg OD, dioxin drop0.5ml, Furoped drop 0.5 ml ,Syp A-2.5ML

4. NURSING MANAGEMENT

4.1 Nursing Diagnosis

Cough related to lung congestion secondary to the effect of general anesthesia

Objectives;

-Reduce the patient's coughing

• Interventions

-Check for coughing in the patient.
-Using a pediatric stethoscope, listen to the patient's chest.
-Provide physiotherapy for the chest.
-Nebulize with Levolin at a dosage of 112 resp.
-After administering nebulization, auscultate.

•Expected results include: - reduction in coughing.

4.2 Nursing Diagnosis

High risk for infection related to the presence of surgical wound

• Objectives

-Reduce the chance of contracting an infection.

• Interventions

-Look for symptoms of infection in the patient. During any surgery, use aseptic method.
-Wash your hands before and after each operation that involves touching the patient.
-Check the temperature and SOS every four hours.
-Assist with the administration of prescription antibiotics (Syrup Augmentin Duo) 2.5ml as directed by the physician.
- vital signs reported and recorded.

• Expected outcomes: -
-absence of infection.

4.3 Nursing Diagnosis

Knowledge deficit of parents of the child related to the disease process as evidenced by frequent questioning

•Objective

-Improve the parents' level of knowledge.

•Interventions include

-Assess the patient's parents' degree of knowledge.
-Inform the patient on his or her illness process.
-Evidence of the parents' skepticism.
-Explain medications, food, comfort and sleep, wound care, and post-operative care.
-Consult the parents for comments.

• Outcomes to be expected

-Parents' knowledge will improve.

Nursing Management

-Avoid and environmental control of allergies
-Antibiotics if greater than 7 days
-First line treatment is Amoxicillin
-If symptoms do not resolve, start broad spectrum antibiotics such as Bactrim
-Decongestants to help the body drain.
-Anti-inflammatory nasal corticosteroids
-Antihistamines

5. DISCUSSION

On the 25th of May 2021, a 2-year-old male from yavatmal was brought to the pediatric unit with the following symptoms: breathing difficulty, discomfort over right eye fever (Temperature – 99.6 f). As soon as he was taken to the hospital, an inquiry was conducted and proper treatment began. Following therapy, it is critical to detect the condition at an early stage so that the patient does not develop complications. It was important to take preventive measures. My patient improved dramatically after receiving therapy, and the treatment was continued until my final day of care.

This heart had many of the structural characteristics of previous specimens of tricuspid atresia, and it's nearly identical to the one reported by Wasson (1934)[6]. The sickness was clearly progressing, and it matched Spitzer's type IV. It's most likely that the presence of congenital ureter stenosis was just coincidental. When atelectasis was present, the absence of heart murmurs showed that the cyanosis was caused

[6] *Loomba and Geddes, "Tricuspid Atresia and Pulmonary Atresia in a Child with Rubinstein-Taybi Syndrome."*

by a respiratory illness[7]. If radiography and electrocardiographic investigations had been available, the diagnosis would very certainly have been evident. Although arterial and venous blood is mixed, except when the patient moved, screamed, or fed, oxygenation was adequate. Due to the presence of a small patent foramen oval, the right atrium had to enlarge, and the left ventricle had to be huge[8]. It had to both provide blood to the lungs and support systemic circulation. The cause of the dyspnea attacks has yet to be determined. There was no evidence of left ventricular failure, and the symptoms might have been the result of breathing difficulties. The cause of death appears to be acute congestive heart failure.[9]

A total of 45 hearts with tricuspid atresia were investigated and classified based on the principal arteries and ventricles' characteristics. Keith and friends' revisions are recognized in the new classification, which is based on the Edwards-Burchell classification of 1949[10]. According to the new categorization, there are three forms of permanent truncus arteriosus: Type I (usually linked great arteries), Type II (transposed great vessels), and Type III (permanent truncus arteriosus) (Type III)[11]. Subtype A, which has a single subaortic conus, and Subtype B, which has both a sub aortic and a sub pulmonary conus, are the two subtypes of Type II tricuspid atresia, which is characterized by transposed great vessels (double conus). The outer connection of the great vessels conforms to either d-transposition or l-transposition when just subaortic conus is present. The presence or absence of pulmonary blood flow blockage further distinguishes Type I and Type II tricuspid atresia. L-transposition, double conus, and persistent truncus are the three types recognized under the new taxonomy, as opposed to the 1949 categorization.[12]

In 56% of the instances, normally linked great vessels were present, and in 42% of the cases, transposed great vessels were present.[13] In 60% of the patients, anatomic signs of pulmonary blood flow restriction were evident. In 84 percent of specimens with regularly linked great vessels, pulmonary blood flow was obstructed, compared to 32 percent of specimens with transposed great arteries.

6. CONCLUSION

On the 25th of May 2021, a 2-year-old boy from Wani was hospitalized to the pediatric ICU at AVBRH with the following symptoms: - respiratory trouble, cyanosis, (Temperature – 99.6 f) as soon as he was taken to the hospital, an inquiry was conducted and proper treatment began. Following therapy, it is critical to detect the condition at an early stage so that the patient does not develop complications. It is critical to take precautions. My patient improved dramatically after receiving therapy, and the treatment was continued until my final day of care.

CONSENT & ETHICAL APPROVAL

As per international standard or university standard guideline Patient's consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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