



DEXTROCARDIA: A CASE STUDY

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ABSTRACT

Dextrocardia is a rare congenital condition in which heart is located on the right side of the chest cavity. Dextroversion is a result of interruption of normal embryological development. The exact cause is unknown but some of the inherited disorders like kartagener syndrome and heterotaxy may cause the malposition of the internal organs and dextrocardia also. This condition can lead to breathing difficulty, bluish skin and jaundice. Through certain investigations like Echo cardiography, ECG and Chest X-ray confirmed the diagnosis. In this case patient has chief complaints of pain in epigastric region and exertional dyspnea. She was experiencing this pain from last one year. Intervention on Balloon aortic valvuloplasty (BAV) procedure and supportive medications was given after that the outcome was very good.

Keywords: Dextrocardia, Malposition, ECG, Balloon Aortic Valvuloplasty (BAV)

1. INTRODUCTION

Dextrocardia is derived from the latin word dexter meaning “right” and greek kardia meaning “heart” a rare congenital condition in which apex of the heart is located on the right side of the body. Dextrocardia is estimated to occur in approximately 1 in 12,019 pregnancies.^[1]

There are two major types of dextrocardia:-

DEXTROCARDIA OF EMBRYONIC ARREST	DEXTROCARDIA SITUS INVERSUS
<p>Also known as isolated dextrocardia.</p> <p>The heart is simply placed further right in the thorax than in normal.</p>	<p>It refers to the heart being a mirror image situated on the right side.</p> <p>Types:-</p> <ol style="list-style-type: none"> 1. Dextrocardia situs solitus:- Situs solitus tell about the viscera that are in the normal position with the stomach on the left side. 2. Dextrocardia with situs ambiguus:- In dextrocardia with situs ambiguous, right sided structures of the heart such as atrium, ventricles and tricuspid are placed posteriorly.

The exact etiology of dextrocardia is unknown. However it is thought that some of the inherited disorders like kartagener syndrome and heterotaxy may cause the malposition of the internal organs and dextrocardia also.

Dextrocardia can be detected by physical examination and ECG findings (Electrocardiogram (EKG) can also reveal the presence of dextrocardia as evidenced by right axis deviation, inversion of all complexes in lead I, upright p wave in AVL, and an absent R wave progression in the anterior leads). The management of dextrocardia depends on the presence of cardiac malformation present like defects of the walls of the heart, severe valvular abnormalities.^[2]

2. CASE PRESENTATION

Here we present a case of Situs Solitus Dextrocardia. A 11 years old female, student visited to IGMC Shimla, H.P. with the chief complaints of pain in epigastric region and exertional dyspnea. She was experiencing this pain from last one year.

Past Medical History

Patient was having significant history of pain in epigastric region and exertional dyspnea from last 1 year and the episodes is frequent in nature (thrice a week) and subside by taking a medication (injection diclofenac sodium)

Past Medication History:

No significant History about Past Medical Condition..

General Examination:

Weight: 42Kg

Height: 141cm

BMI: 16.1kg/m²

Physical activity: performing daily routine activities.

3. INVESTIGATIONS

On examination her vital signs were temperature of 98.8 °F, heart rate of 86/minute and blood pressure of 100/60 mmHg in her right upper arm in supine position. A cardiovascular system examination showed visible apex beat in right fifth intercostals space in midclavicular line. There was a Mid-diastolic murmur present at the 5th intercostal space on the right sided of the heart. Other investigation has been done like ECG, 2 D Echo Cardiography, X-ray, CBC, LFT, RFT.

4. TREATMENT

Tab. PCM 500mg SOS, Tab. Envas 2.5 mg (half tablet) OD, Tab. Metpure-XL 12.5 mg OD, Tab. DOM-DT 5mg TDS, Tab. Pantop 40mg OD, Tab. Ciprofloxacin 500mg OD.

5. INTERVENTIONS

- Balloon aortic valvuloplasty (BAV) procedure was done.
- Patient was advised to avoid mobilization of right leg and take adequate amount of rest.

6. CARE PLAN

- Eat a healthy diet- Advised to take fruit and vegetables, low-fat or fat free dairy products, poultry, fish and whole grains. Avoid excess salt and sugar.
- Aerobic exercises helps in improves the cardiac activity and minimize the risk of left ventricular hypertrophy.

7. OUTCOME

- After the BAV procedure the patient's epigastric pain was relieved.
- Patient was advised to take the prescribed medication.

Patient was advised to visit hospital after 15 days for follow up.

8. DISCUSSION

Dextrocardia is a rare congenital anomaly reported to 1 in 20,000 pregnancies. [2]The male to female incidence is 1:1 and the arrangements of the position of the abdominal viscera in dextrocardia may be normal (situs solitus), reversed (situs inversus) and indeterminate (situs ambiguous or isomerism) in 32 to 35%, 35 to 39% and 26 to 28% of cases. The exact cause of dextrocardia is unknown.[3] Clinical features of dextrocardia are: Bluish skin, difficulty in breathing, fatigue, jaundice and pale skin. Diagnosis of dextrocardia is confirmed with the chest radiography, ECG and Echocardiography. The treatment option for dextrocardia is antibiotic, diuretics, inotropic agents and ACE inhibitors.[4]

In our patient solitus situs Dextrocardia was associated with Bicuspid Aortic Valve Disease. Cardiac anomalies identified on echocardiography were interrupted inferior vena cava with severe aortic stenosis. This case is reported because of the solitus situs dextrocardia with symptomatic presentation due to complex pattern of cardiac malformation.

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