

A case study of dextrocardia with situs inversus

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Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

We present a rare case of a 29-year-old primigravida with 3 months of amenorrhea who came to hospital for her routine Antenatal checkup.

She gave history of recurrent cold and sinusitis.

Otherwise, patient was asymptomatic and she did not have any other major complaints.

No significant past medical history.

On general examination she had a fluctuating pulse rate.

On physical examination apex beat was located in the 5th right intercostal space.

Ultrasonography performed as a routine scanning for fetal well-being was suggestive of a left sided liver and gall bladder.

Chest x-ray performed after delivery confirmed dextrocardia and gastric air bubble on the right which was suggestive of situs inversus total is. ECG, 2D-ECHO revealed dextrocardia.

A 24-hour Holter monitoring was done in view of fluctuating pulse rate.

Keywords: Dextrocardia, Situs inversus totalis, 24 Hour Holter monitoring, ECG, 2DECHO.

Introduction

Dextrocardia with Situs Inversus is a very rare condition. Dextrocardia is a rare congenital disorder in which heart is present on the right side of the thoracic cavity. It can occur by itself or with situs inversus total is.

Incidence rates of Dextrocardia is around 1 in 12000 pregnancies.

Dextrocardia with Situs Inversus Total is affects 1 out of 10,000 children.

Situs Inversus Total is seen in 50% of patients with Primary Ciliary Dyskinesia.

Here is a similar case of Dextrocardia with situs inversus total is in a 29-year-old pregnant female.

Case report

A 29-year-old Primi gravida with 3 months of amenorrhea came to hospital for her routine Antenatal Checkup. She gave history of recurrent cold and sinusitis. Patient did not have any other major complaints with no significant past medical or surgical

history. On General Examination only significant finding was an irregularly irregular pulse with ectopic beats.

On cardiovascular system examination apical impulse was on the right side of the heart. Heart sounds were audible on the right side of the heart with S2 splitting on the right. Other systems had no abnormal findings.

Her ECG with reverse lead placement was done which was suggestive of positive QRS complexes in aVR. Lead 1 showed inversion of all complexes, absent R wave progression in the chest leads. On Routine Ultra sonography Liver is enlarged. The Right lobe is seen in the left hypochondriac region and the left lobe is seen in midline extending into the right hypochondriac region.

Spleen not visualized.

2decho revealed dextrocardia. Trivial MR, LVEF=55%.

No cardiac shunting.

24-hour Holter monitoring: Patient's predominant rhythm was Sinus rhythm with Sinus Arrhythmia. Supraventricular Premature Ectopic beats and Junctional Beats were noted. PR interval changes were noted. Ventricular ectopic beats were noted in single beat forms.



Fig 1: CHEST-XRAY: Dextrocardia.

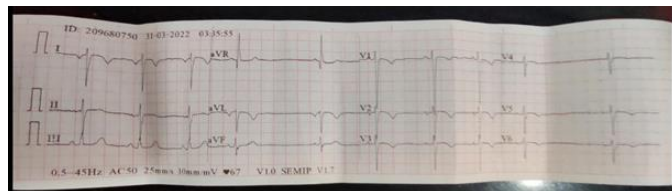


Fig 2: ECG: Positive QRS complexes in aVR, Lead 1: Inversion of all complexes, absent R wave progression in the chest leads.



Fig 3: 24-hour Holter monitoring

Discussions

There is no known cause. Maternal Diabetes Mellitus and Cocaine use maybe the causes. No racial or gender predilection. (1)

It may be associated with congenital cardiac anomalies. (1)

Situs Inversus Total is +Primary Ciliary Dyskinesia =Kartagener's Syndrome which is characterized by Situs Inversus +Chronic Sinusitis +Bronchiectasis. (2)

Complications may occur during surgical intervention in an undiagnosed Situs Inversus Total is. (3)

Genetic factors maybe suspected. (4,5)

Screening test for Kartagener's includes Nasal Nitric Oxide which is mostly reduced in Primary Ciliary Dyskinesia (6). It is a good screening test for immotile cilia syndrome. Other screening test includes Saccharine

test. Laboratory studies include electron microscopy to visualize ciliary ultrastructure (7). Sample of respiratory cilia is obtained from nasal crape or brush biopsy. (6)

Semen analysis may reveal abnormal sperm motility and ultrastructure. Genetic testing maybe useful. (7)

Imaging includes: CT scan to look for sinusitis. (7)

HRCT to look for bronchiectasis. (7)

Complications include Congestive Heart Failure, Respiratory failure, Failure to thrive, severe infections, infertility in males, recurrent sinusitis, pneumonia and intestinal obstruction due to malrotation. (8)

If diagnosis of dextrocardia is missed other cardiac anomalies and rare presentations associated with it could be missed.

ECG ,2decho, chest x-ray (non pregnant), ultra-sonography, Holter monitoring provide simple but informative investigations.

In conclusion our case report study suggests an individual can be born with Dextrocardia and Situs inversus total is and if not associated with any syndrome or cardiac anomaly can remain asymptomatic and only incidentally diagnosed.

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