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Dextrocardia and Pseudodextrocardia: Dextroversion and Dextroinversion! What Do You Need to Know in Clinical Practice?

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Abstract **Case Report**

Dextrocardia is a rare condition characterized by the location of the heart on the right side of the thoracic cavity instead of the left side; it is a congenital pathology whose embryonic origin is not known to date. This is a case of situs inversus totalis in a 30-year-old woman who presented to routine cardiology with symptoms of atypical thoracic co-occurring cough and abdominal pain. CT scan of the abdomen and ultrasound are not enough to reverse organs caused by hemorrhage. This case is reported to illustrate the imaging of dextrocardia and highlight its implications for clinical thoracic radiology and echocardiogram practice. This case also adds to the growing body of global literature on the context of this birth defect in our environment.

Keywords: Cardiopathy Congenital, Radiography, Dextrocardia, Anormaly Localization.

INTRODUCTION

Carried out for other health problems where it can present it self in the form of symptoms Dextrocardia is a rare condition characterized by the localization of the heart on the right side of the thoracic cavity instead of the left side, it is a congenital pathology of which the embryonic origin is not known to date.

The first case was described in 1906 [1, 2]. This curiosity is usually found incidentally, but sometimes associated with other more serious malformations (pulmonary estenosis, CIV, etc.). Kartagener syndrome associate the congenital bronchiectasis, chonic sinusitis and situs inversus with dextrocardia. Congenital anomalies must be systematically investigated.

The anomaly is rare (1/10,000 births and 1.8% of congenital heart disease) and often asymptomatic [3]. It is isolated and sometimes associated with a condition called “situs inversus” in which the liver, spleen or other visceral organs are also located on the side opposite to normal.

Dextrocardia can be diagnosed during completely atypical additional examinations such as digestive problems, or problems linked to the malposition of other visceral organs, if a “situs inversus” is associated [2].

The anomaly, more often asymptomatic, obviously does not require treatment. However, it is important to notify the anomaly in the patient's medical file for future examinations or treatments. The diagnosis of dextrocardia can be suspected on the basis of a standard 12-lead trace. Thus, unlike a normal ECG, we will find some particular characteristics [4]. We can objectify:

A P wave is negative rather than positive in DI. A right axial deviation.

An R wave diminished from V1 to V6 (dominant S wave) whereas it should increase throughout the precordials. Similar QRS-T complexes in DI and V6.

The differential diagnosis must be made with an inversion of frontal electrodes, but in this specific case the P-QRS-T complex in D I is very different in V6. To record the ECG of a patient with dextrocardia, you must reverse the frontal electrodes, invert V1 and V2 and place the other four precordial electrodes opposite the right mid thorax in the usual intercostal species. Figure 1 shows an example of an atypical dextrocardia ECG. Chest x-ray and echocardiography confirm the diagnosis.

In addition to true dextrocardias, there are two other anomalies of hearts located on the right, Pseudo-dextrocardia, namely dextroposition and dextroversion. Dextroposition is the movement of the heart to the right following an extracardiac cause, such as hypoplasia of the right lung, right pneumonectomy, atelesis, rupture or diaphragmatic hernia. Although the heart is located on the right in the thorax, the apex of the left ventricle is located on the left. The risk of associated congenital lesions is the same as in the general population. An example of dextroposition is scimitar syndrome, characterized by an association of cardiopulmonary anomalies including partial anomalous pulmonary venous return from the right lung towards the inferior vena cava, leading to a left-right shunt.

Dextrocardia is an extreme rarity, with localization of the heart in the right midthorax without inversion of the cardiac cavities. It is the consequence of poor ventricular rotation on its long axis with the atria in a normal position. The onda P.

CLINICAL CASE

Through this article, we will present a clinical case of dextroposition. We are therefore talking here about dextrocardia.

CLINICAL CASE

30-year-old patient with no history or cardiovascular risk factors, who presented to the outpatient clinic with atypical precordialgy at times, dry cough and some predisposition to the stomach level. General clinical examination, weight: 52kg, height: 1.60cm and arterial pressure 120/80mmhg, in cardiovascular exam, cardiac bulges auscultation on right, peripheral pulse symmetrical and normal. In this case, standard assessments are requested in which case thoracic radiography is carried out and highlights a deviation of the heart towards the right midthorax; subsequently, cardiac ultrasound was done which confirmed the aspect of the heart deviated towards the right identified in the parasternal long axis shot. But the Electrocardiogram done, is normal which a great particularity of this clinical case.

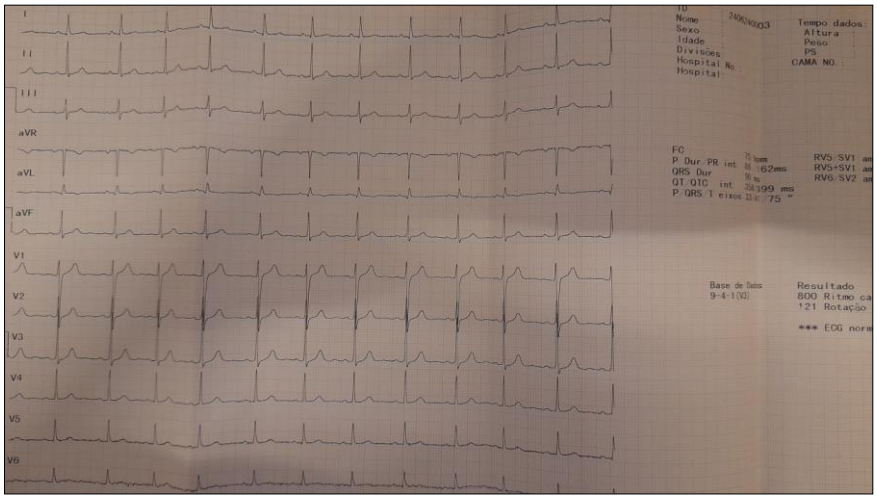

Figure 1: Electrocardiogram of 12 derivation is practically normal with heart pins in place

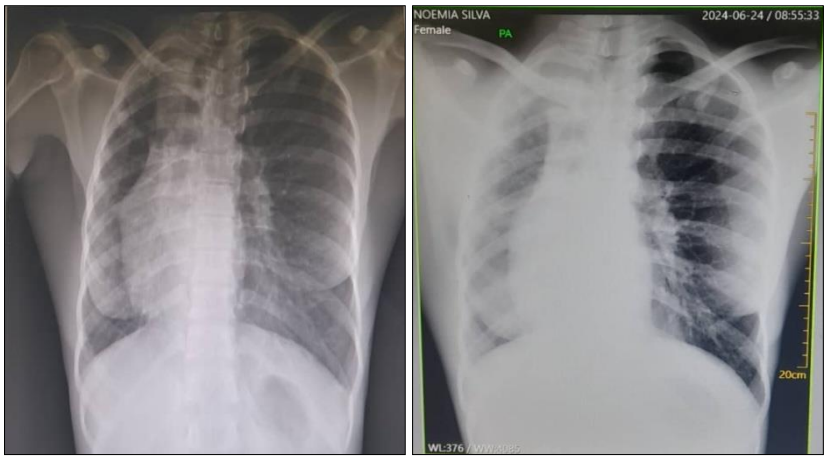

Figure 2: Chestx-ray in anteroposterior and posteroanterior positions done on different days, showing abnormal localization of the heart, revealed by cardiac dextroposition.

CONCLUSION

We have noted the varieties of heart anomalies located on the right: dextrocardia, dextroposition and dextroversion. Discovery is often fortuitous, thanks to a chest x-ray, eco-heart or 12-lead ECG carried out in a Cotadian manner. We have shown a remarkable one example of dextroposition.

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