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### CASE REPORT

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## Cases Report: Situs Inversus Totalis

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### ABSTRACT

*Situs inversus totalis also called situs transversus, a congenital condition in which major visceral organs are reversed or mirrored from normal positions. In case one a 10 years old female presented with recurrent abdominal pain and found to have right sided heart and in case two amale of 3 years old presented with chest pain and found to have right sided heart.*

**Key words:** *Situs Inversus Totalis, Rabak and Sudan.*

### INTRODUCTION

Situs inversus totalis also called situs transversus, a congenital condition in which major visceral organs are reversed or mirrored from normal positions. However, most affected individuals can live a normal life without associated symptoms or disability (Friedman, 1988).

Although cardiac problems are more common than in the general population, most people with situs inversus have no medical symptoms or complications resulting from the condition, and until the advent of modern medicine it was usually undiagnosed (Ngim et al., 2013)

### 1\_ Case 1-Situs inversus totalis

Physically well female of 10 years old was referred to Rabak teaching hospital from a rural hospital as she was complaining of recurrent abdominal pain to which she received treatment as gardaisis many times. The was mainly epigastric pain with diarrhea on and off but no other complain. On clinical examination she was found to have dextrocardia and normal abdominal examination.

#### Investigations showed

1. Normal complete blood count.
2. Normal stool general test.
3. Posotive blood for H.pylori.
4. Abdominal ultrasound showed right sided spleen with normal size and texture, right sided Liver with normal size and texture. No other abnormalities.
5. Chest X ray: right sided heart (figure 1)
6. Echocardiography showed right sided heart with no other a normally.

### 2\_ Case 2: Situs inversus totalis

Physically normal 3 years old boy from village near Rabak city at white Nike state -Sudan presented with cough and fever for the last week, he had this complains many times with one hospital admissions at rural hospital for one day. He presented to Rabak teaching hospital with this complains and on routine clinical examination dextrocardia was diagnosed with Malaria.

#### INVESTIGATIONS

1. Posotive blood film for plasmodium falciprum.
2. Normal complete blood count other than mild neutrophilia.
3. Chest X ray showed right sided heart (Figure 2).
6. Echocardiography revealed dextrocardia with structurally normal heart.
7. Ultrasound abdomen showed situs inversus.

#### DISCUSSION

Dextrocardia (the heart being located on the right side of the thorax) was first seen and drawn by Leonardo da Vinci in 1452–1519, and then recognized by Marco Aurelio Severino in 1643. However, situs inversus was first described more than a century later by Matthew Baillie (**Fraser et al., 1999**).

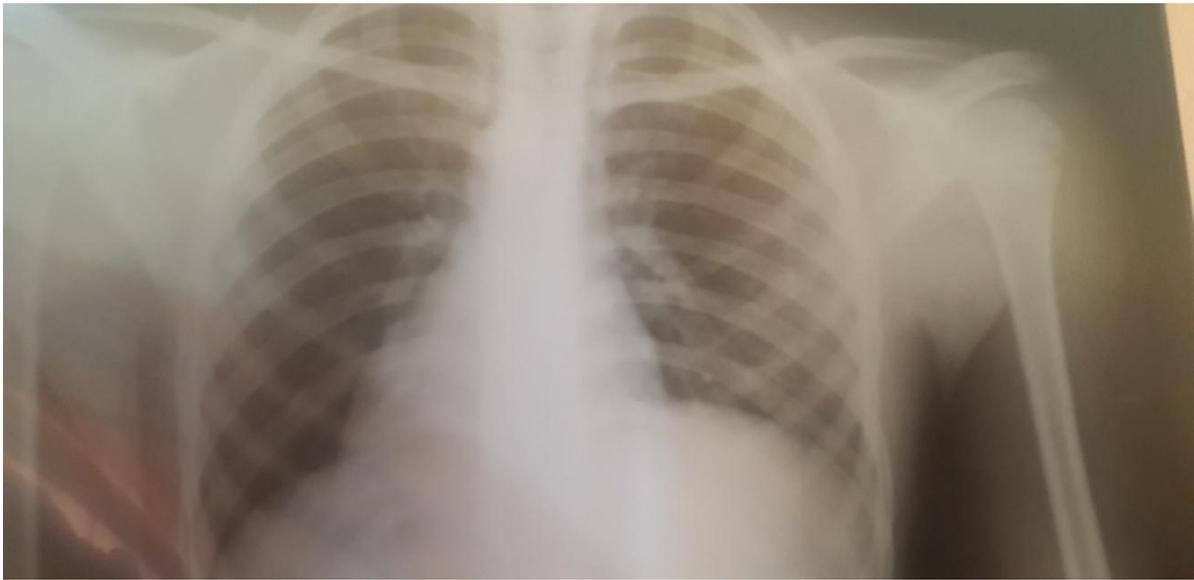
Situs inversus totalis is a congenital condition in which all the major visceral organs are mirrored from their normal position (**Schumacher, 2012, Wilhelm et al. 2011**). The condition occurs in less than 1 of 10,000 people (less than 0.01 percent), although its presence varies across populations (**Wilhelm et al. 2011**). Situs inversus totalis is not a structural heart disease and is normally not associated with congenital heart disease (**413679-Overview, 2013**). However, in malpositions of situs inversus with levocardia and situs solitus with dextrocardia, structural heart conditions tend to be more prevalent, such as double outlet right ventricle, endocardial cushion defect, pulmonary stenosis or atresia, single ventricle, transposition of the great vessels, atrial septal defect, and ventricular septal defect (**Wilhelm et al. 2011**).

In dextrocardia with situs inversus the heart is structurally normal in 90-95% of cases, in contrast to dextroversion (dextrocardia with situs solitus), which has a high incidence of

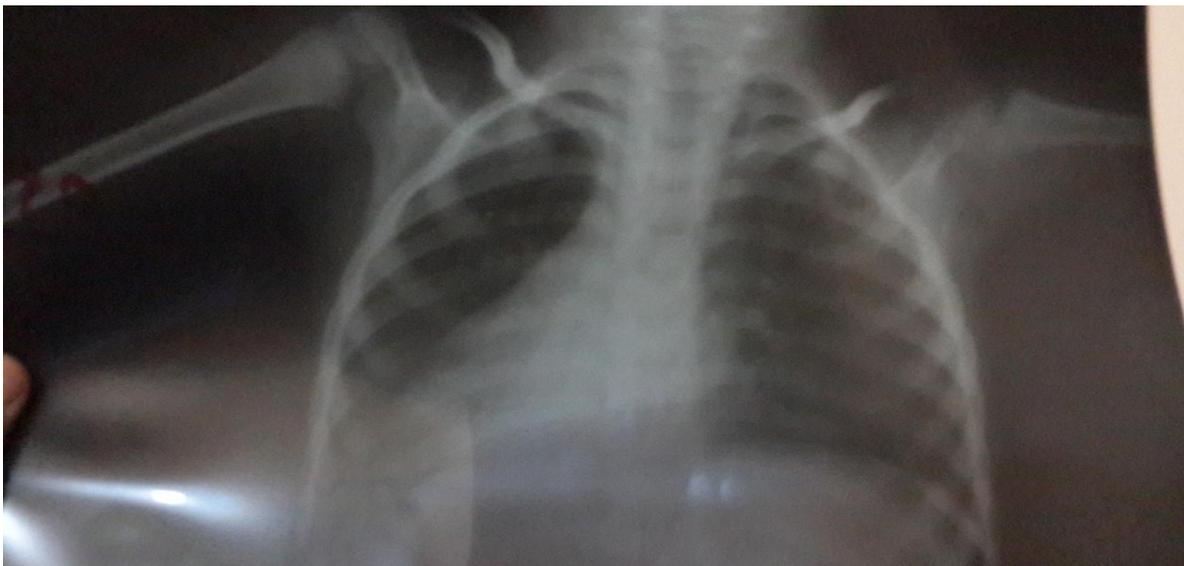
structural cardiac defects. Atrial septal defect is one of the most common congenital cardiac anomalies in adults. Diagnosis is based on clinical manifestations and simple complementary diagnostic exams like abdominal and thoracic radiography and electrocardiogram (**Marta et al. 2003**).

We therefore, in conclusion, sensitize the medical officers and young doctors in our rural hospitals to do medical examination which could give a signal to the existence of this condition if present. The surgeons and radiologists to beware of this anomaly during the presurgical and surgical management.

This will help the patient when afflicted with certain clinical conditions such as appendicitis; where the referred pain will be on the left side rather than the right thus leading to wrong diagnosis and possibly death due to delay in surgical management.



**Figure 1. Right sided heart.**



**Figure 2. Right sided heart.**

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