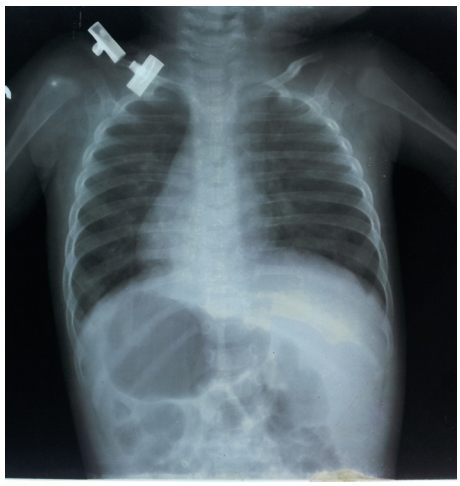
SPOT DIAGNOSIS (IMAGE GALLERY)



ABNORMAL CHEST X-RAY

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A 3-years old boy presented with fever and cough for 3-4 days. On examination, there was bilateral wheeze. Chest x-ray is depicted (Figure 1).

What is the diagnosis?

The child had situs inversus (SI) totalis with mild bronchiolitis. Chest X-ray revealed the heart to be on right side with apex pointing to right. Also the fundic gas shadow is on right and liver is on left side. Situs inversus is a congenital condition in which the major visceral organs are reversed or mirrored from their normal positions. (1) The normal arrangement is known as situs solitus. In SI, the morphologic right atrium is on the left, and the morphologic left atrium is on the right. The normal pulmonary anatomy is also reversed with the tri-lobed left lung and the bi-lobed right lung. Likewise liver and gall bladder is situated in left and stomach and spleen in right. On the basis of direction of cardiac apex, SI can be further classified into situs inversus with dextrocardia (base-to-apex axis pointing to right) or with levocardia (base-to-apex axis pointing to left). Isolated dextrocardia can be termed as situs solitus with dextrocardia and situs inversus with dextrocardia is synonymous to situs inversus totalis. (1) When situs cannot be determined, the condition is known as situs ambiguous or heterotaxia syndrome. The latter is of two types (a) Right isomerism or bilateral right sidedness (Asplenia syndrome) associated with centrally located liver, morphologic right lungs (tri-lobed) on both sides and absent spleen, (b) Left isomerism or bilateral left sidedness (Polysplenia syndrome) associated with absent intrahepatic portion of inferior vena cava, morphologic left lungs (bi-lobed) on both sides and multiple small spleens. Several major congenital cardiac anomalies like single ventricle, common atrioventricular valve or abnormal systemic or pulmonary venous connections (TGA or TAPVC) are usually present in cases of heterotaxia syndrome. (2)

In the absence of congenital heart defect, individual with SI are phenotypically unimpaired and can lead normal healthy lives without any complication related to their medical condition. About 25 percent of individual with SI have an underlying condition known as primary ciliary dyskinesia (PCD). (1) A triad of situs inversus, chronic sinusitis and bronchiectasis is known as Kartagener syndrome.

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