

## Recurrent Sino: Pulmonary infections in an infertile male

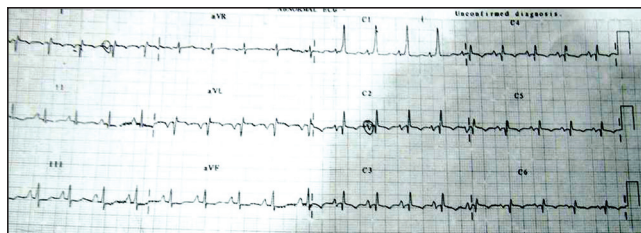
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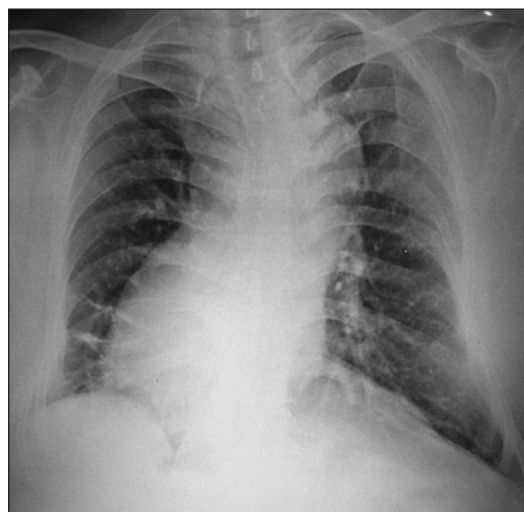
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A 50-year-old man presented with worsening shortness of breath, cough, and expectoration of 1 week duration. He gave a history of recurrent sinopulmonary infections since childhood. He had been married for the last 26 years and had no children.

On examination, he was febrile with nasal discharge, wheezy chest, and bilateral coarse crackles. His apex beat was in the sixth right intercostals space with heart sounds being heard on the right side of the chest. Electrocardiogram showed right axis deviation, positive QRS complexes (with upright P and T waves) in aVR, inverted P wave, negative QRS, inverted T wave in Lead I and absent R-wave progression in the chest leads [Figure 1a]. Chest radiograph showed cardiac apex and aortic arch on the right side [Figure 1b]. Fiber-optic bronchoscopy showed transposition of right and left bronchus. High-resolution computed tomography of chest and upper abdomen showed bronchiectasis, air-trapping [Figure 2a], and situs inversus totalis [Figure 2b]. Radiograph of sinuses showed mucosal thickening in maxillary sinuses and hypoplastic frontal sinuses [Figure 2c]. Fiber-optic bronchoscopy showed transposition of right and left bronchus. Semen analysis (carried out on multiple occasions) showed decreased sperm count with no motility. Saccharin test for mucociliary clearance gave a time of 38 min (normal <15 min).



**Figure 1a:** Electrocardiogram showing right axis deviation, positive QRS complexes with upright P and T waves in aVR, lead inverted P wave, negative QRS, inverted T wave in Lead I and absent R-wave progression in the chest leads

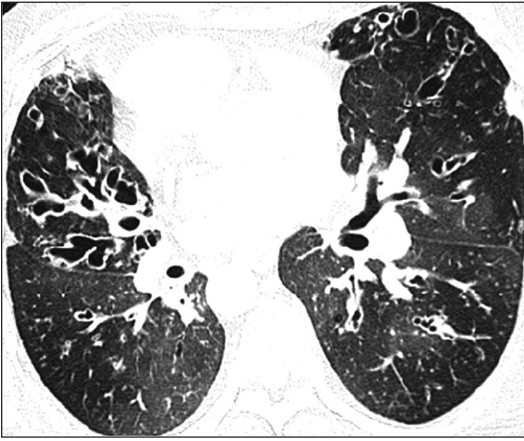


**Figure 1b:** Chest radiograph showing dextrocardia

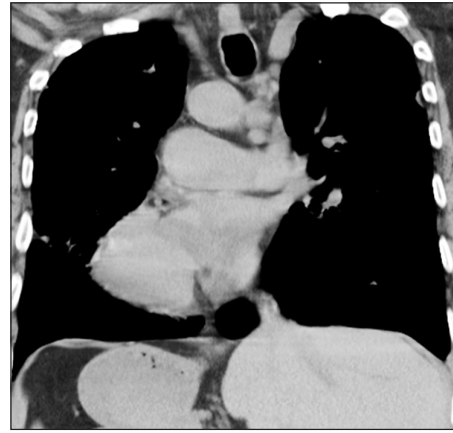
### QUESTION

Q1: What is your diagnosis?

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	<b>DOI:</b> 10.4103/0970-2113.125999



**Figure 2a:** High-resolution computed tomography of chest showing bronchiectasis air-trapping



**Figure 2b:** High-resolution computed tomography of the abdomen showing situs inversus with spleen on right side and liver on the left



**Figure 2c:** Radiograph of sinuses showing mucosal thickening in maxillary sinuses and hypoplastic frontal sinuses

## ANSWER

Kartagener's syndrome

Kartagener's syndrome is a variant of primary ciliary dyskinesia or immotile cilia syndrome.<sup>[1]</sup>

It is a rare autosomal recessive disorder clinically

characterized by triad of sinusitis, bronchiectasis and situs inversus with or without dextrocardia.<sup>[1,2]</sup> The ultrastructural deficits involving the axoneme or central functional element of the cilia impairs the coordinated ciliary motion resulting in mucus retention and recurrent respiratory tract infections (sinusitis, otitis media and pneumonia).<sup>[1-3]</sup> Other associated findings may include conductive deafness, nasal polyposis, hypoplastic frontal sinuses, male infertility, and less commonly congenital cardiac defects.

## REFERENCES

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**How to cite this article:** Singh A, Sidhu US, Wander GS. Recurrent Sino: Pulmonary infections in an infertile male. *Lung India* 2014;31:84-5.

**Source of Support:** Nil, **Conflict of Interest:** None declared.