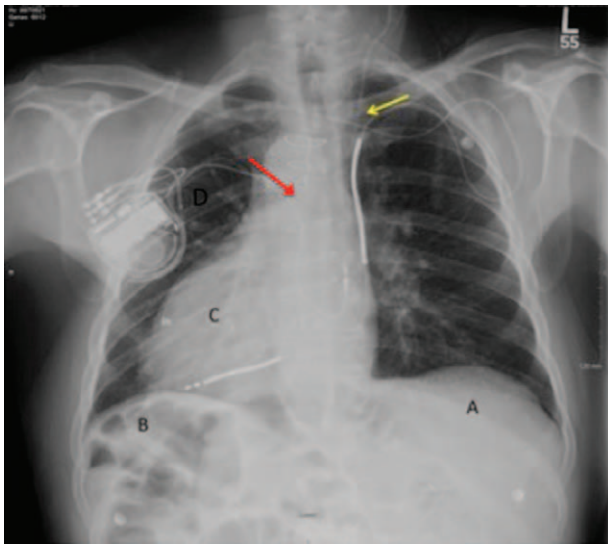


Images in Anesthesiology: Mirror Image

A Patient with Situs Inversus Totalis

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IN patients with situs inversus totalis, all the major abdominal organs as well as the heart and lungs are in the mirror image position of their normal anatomic location. There are several anesthetic implications for the successful management of these patients with situs inversus totalis that are highlighted in this patient's chest x-ray (fig.: upright anteroposterior chest x-ray: A, elevated hemidiaphragm/liver; B, stomach; C, heart in right chest; D, bilobed left lung in right chest).

Electrocardiogram monitoring must be altered by reversing right and left chest lead placement (C, heart in right chest). Additionally, these patients are prone to arrhythmias and atrioventricular discordance with a progressive risk of spontaneous complete atrioventricular block throughout life.¹ Therefore, it is important to place defibrillator pads in the right anterolateral chest, as incorrect placement may not deliver an appropriate shock with a rightward heart axis.² If central venous access is required, catheter placement is preferred in the left internal jugular vein due to the anatomic relationship of the right atrium and avoidance of thoracic

duct (yellow arrow: central venous line in left internal jugular vein). In procedures requiring lung isolation, a double-lumen endobronchial tube will need to be placed in reverse orientation due to inverted bronchial/lung anatomy (red arrow: left main stem bronchus on the right side). Finally, one should recognize the association with various other syndromes such as Kartagener syndrome, which may affect as many as 25% of patients with situs inversus.³ Kartagener syndrome is characterized by the triad of situs inversus, bronchiectasis, and impaired mucociliary clearance, which may impair respiratory function.³

Competing Interests

The authors declare no competing interests.

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