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Commentary: Three dimensions of inverse laterality

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Lee and colleagues¹ present 2 cases of bilateral sequential lung transplantation performed in patients with Kartagener's syndrome. The paucity of reports and data pertaining to lung transplantation in the context of this syndrome makes this account timely and relevant. Each case poses challenging anatomic dilemmas, and the authors have successfully mitigated these through the use of 3-dimensional (3D) reconstructive imaging. This high-resolution 3D imaging performed preoperatively allowed adequate planning to tackle the anatomical anomalies that the surgeons were about to encounter. The authors should be congratulated for accomplishing these transplants. The deployment of venoarterial extracorporeal membrane oxygenation support further exemplifies their level of sophistication and capability.

Transplantation in Hong Kong is not subject to legislation by Lung Allocation Scoring system as is the case in North America. As such, it is not readily possible to quantify or compare the severity of disease of the recipients. Nevertheless, the unusual anatomy suggests the need for careful preoperative planning. In the event of right-sided implantation, this includes the consideration of potential middle lobectomy or lobar transplantation. As such, the unusual nature of the transplantation portends an anticipated increase in

CENTRAL MESSAGE

Three-dimensional imaging and preoperative planning.

acuity in the posttransplant phase whether or not this existed preoperatively.

The use of 3D imaging is gaining considerable traction in preoperative modeling.² Within transplantation, this may plausibly begin to take the form of both preoperative planning as well as the assessment of adequate fit in potential donors. For example, the authors may also have used 3D printing of the donor lungs and matched it against their recipient's spatial dimensions and anatomy. All of these options are fast becoming a reality and may become the standard of care.

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