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授課主題

Transesophageal Echocardiography in Transcatheter Structural Heart Interventions

摘要

Over the past decades, transcatheter structural heart interventions have expanded rapidly, offering minimally invasive alternatives to open-heart surgery for high-risk patients. TEE plays an indispensable role throughout all stages of structural interventions: Pre-procedural planning, intraprocedural guidance, post-deployment evaluation. Precise intraprocedural imaging is critical to ensure procedural safety, accurate device deployment, and immediate outcome assessment. Transesophageal echocardiography (TEE)—particularly multiplane and three-dimensional (3D) TEE—has emerged as the gold-standard imaging modality in this domain. Although transesophageal echocardiography is a relatively safe modality, it is an invasive procedure and does carry the risk of infrequent but potentially life-threatening complications. As transcatheter structural therapies continue to evolve toward complex, multi-valve repairs, high-resolution TEE remains a cornerstone of multidisciplinary heart team workflows. Complementary multimodality imaging techniques need to be better developed as well.

在過去十年間，經導管結構性心臟病介入治療發展迅速，為高風險患者提供了替代開心手術(傳統開胸手術)的微創選擇。經食道超音波檢查(TEE)在結構性心臟病治療的各個階段皆扮演著不可或缺的角色，包含：術前評估規劃、術中即時導引，以及術後放置效果評估。精準的術中影像對於確保手術安全、準確放置裝置以及即時評估療效至關重要。經食道超音波——特別是多平面及三維(3D)TEE——已成為該領域的黃金標準影像技術。儘管經食道超音波是一項相對安全的檢查，但它仍屬於侵入性處置，並存

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有罕見但可能危及生命的併發症風險。隨著經導管結構性心臟病治療持續朝向複雜的多瓣膜修復發展，高解析度的 TEE 仍將是跨領域心臟團隊工作流程中的基石。此外，互補性的多模態影像技術(multimodality imaging) 也需要獲得更完善的發展。