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State-of-the-Art Review on Automated Lumen and Adventitial Border Delineation and its Measurements in Carotid Ultrasound

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Highlights

- Discussed the state-of-the-art methods and systems for the measurement of carotid lumen diameter (LD) and inter-adventitial diameter (IAD) based on automated or semi-automated strategies.
- Performance of different segmentation methods is compared based on various evaluation metrics.
- Discussed about the challenges in different CCA segmentation techniques and future perspectives.
- Clinical Significance of Carotid LD and IAD is discussed and concepts regarding the carotid/coronary artery risk predictors.
- Introduced a novel method for quantification of stenosis and patient risk assessment based on carotid LD.
- Discussed the importance of multi-ethnic and different original equipment manufacturer (OEM) data collection for carotid artery segmentation.
- Discussed about the recent trends in the carotid artery segmentation, data analysis and validation process.

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