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Automated Segmental-IMT Measurement in Thin/Thick Plaque with Bulb Presence in Carotid Ultrasound from Multiple Scanners: Stroke Risk Assessment

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Highlights

- Automated detection of the carotid bulb edge, which is considered a reference marker for measurements of the cIMT.
- Automated segment-based IMT measurement system which estimates the IMT for different segments of the carotid artery proximal to the bulb edge.
- Segmental-IMT (sIMT) allows us to measure IMT in 10 mm segments (namely: s1, s2 and s3) proximal to the bulb edge.
- The proposed fully automated bulb detection system achieved 92.67% precision against ideal bulb edge locations in the bulb transition zone and holds a significant promise for risk stratification tool stratification of carotid disease.

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