

isuog2026.15504ed Reference ranges for fetal corpus callosum length corrected for head circumference across gestation

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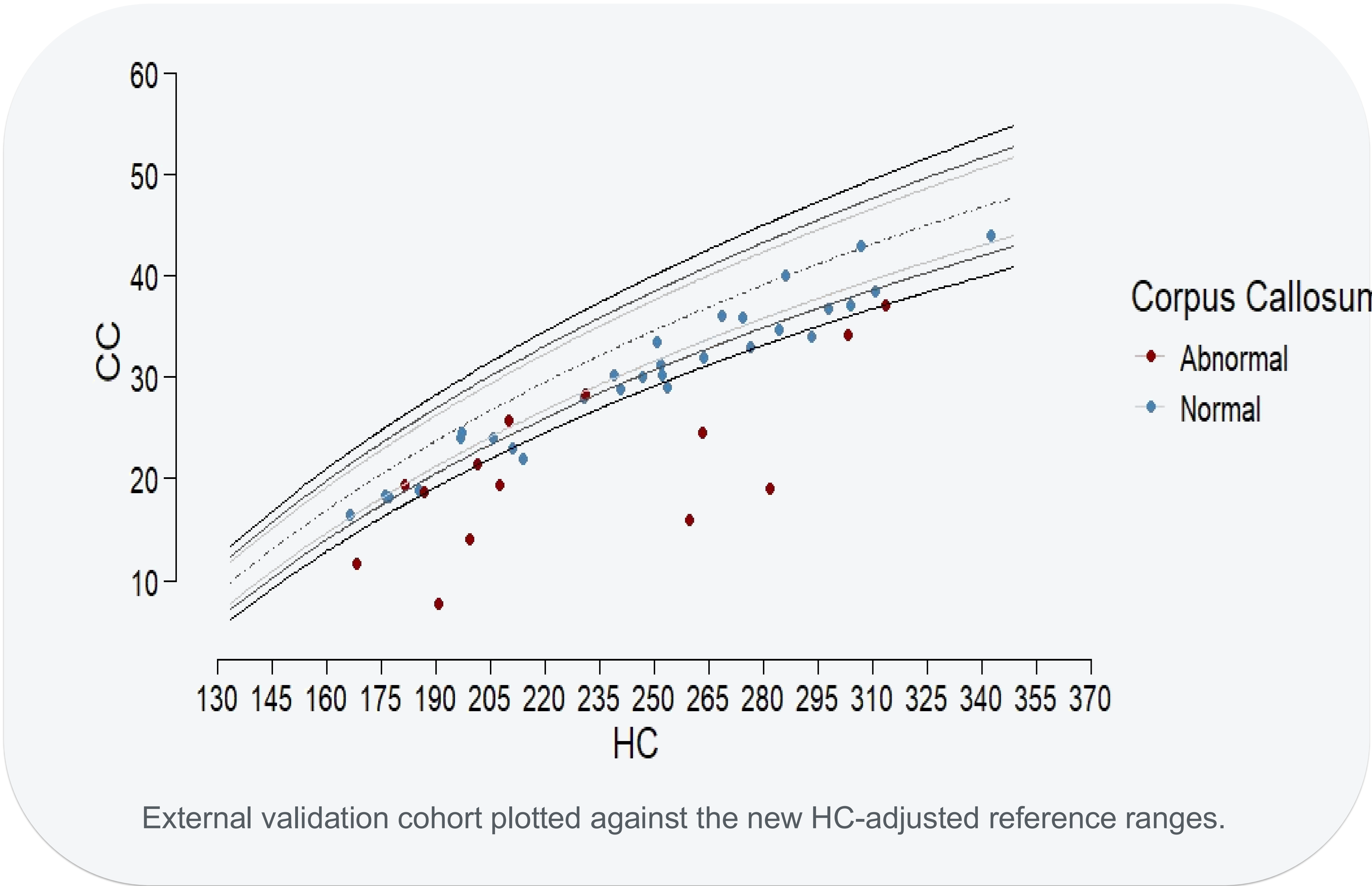
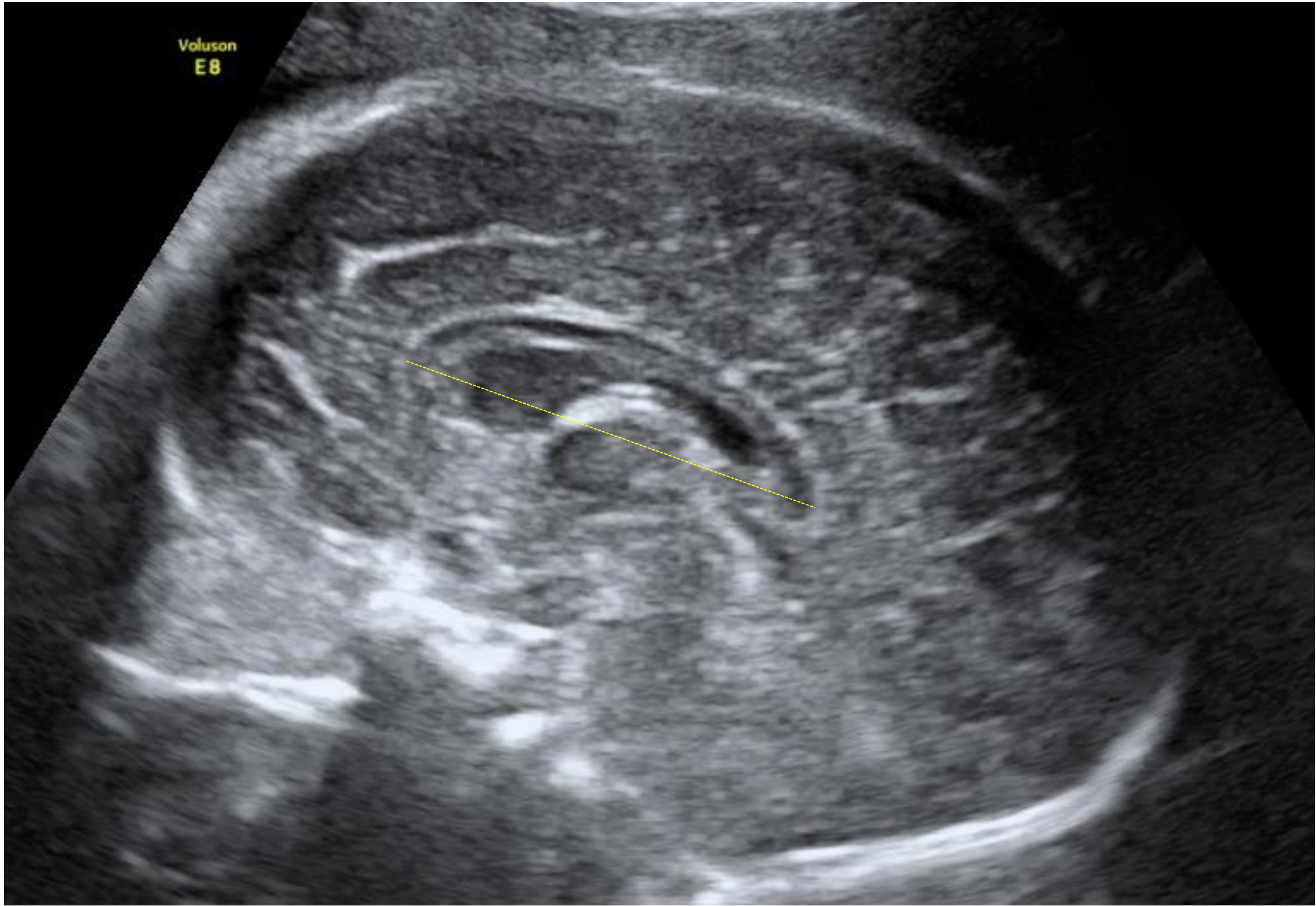
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OBJECTIVE

To develop reference ranges for fetal corpus callosum (CC) length adjusted for head circumference (HC), and externally validate their diagnostic performance.

METHODS

- Stored 2D midsagittal brain images from 3 ultrasound units
- 1,021 measurements from phenotypically normal, adequate-birthweight liveborn neonates
- CC measured from genu to splenium
- Regression-based centile curves corrected for HC
- External validation: 44 screen-positive referrals (30 normal; 14 confirmed CC anomalies)



CONCLUSION

HC-adjusted fetal CC reference ranges show good discrimination for CC anomalies and may reduce false-positive referrals generated by gestational-age-based charts.

VALIDATION PERFORMANCE

AUC 0.83

95% CI 0.68-0.98

<1st	DR 64.3%	FPR 13.3%
<5th	DR 78.6%	FPR 46.7%
<10th	DR 92.9%	FPR 63.3%

At <10th centile Only 1 case was missed - borderline hypoplasia in a fetus with multiple anomalies.

INTERPRETATION

Adjusting CC length for HC improved specificity compared with the gestational-age-based chart used for referral, while maintaining high detection of abnormal cases.

TAKE-HOME MESSAGE

Corpus callosum size should be interpreted in relation to fetal head size, not gestational age alone.