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## Reference charts for fetal corpus callosum length: a prospective cross-sectional study of 2950 fetuses.

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#### Abstract

**OBJECTIVES:** The purpose of this study was to establish reference charts for fetal corpus callosum length in a convenience sample.

**METHODS:** A prospective cross-sectional study was conducted at the Artemisia Fetal-Maternal Medical Center between December 2008 and January 2012. Among 16,975 fetal biometric measurements between 19 weeks and 37 weeks 6 days' gestation, 3438 measurements of the corpus callosum (20.3%) were available. After excluding 488 measurements (14.2%), a total of 2950 fetuses (85.8%) were considered and analyzed only once. Parametric and nonparametric quantile regression models were used for the statistical analysis. To evaluate the robustness of the proposed reference charts with respect to various distributional assumptions on the sonographic measurements at hand, we compared the gestational age (GA)-specific reference curves produced by the statistical methods used.

**RESULTS:** The mean corpus callosum length was 26.18 mm (SD, 4.5 mm; 95% confidence interval, 26.01-26.34 mm). The linear regression equation expressing the length of the corpus callosum as a function of GA was length (mm) = -11.17 + 1.62 × GA. The correlation between the dimension and gestation was expressed by the coefficient  $r = 0.83$ . Normal mean lengths according the parametric and nonparametric methods were defined for each week of gestation.

**CONCLUSIONS:** This work provides new quantile-based reference charts for corpus callosum length measurements that may be useful for diagnosis of congenital corpus callosum anomalies in fetal life.

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**KEYWORDS:** corpus callosum; fetal biometry; fetal sonography; obstetric ultrasound; reference charts

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