



Amniocentesis: Current Trends and Outcomes in a Middle-Income Setting

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Objective

To describe current trends, indications, and maternal-fetal outcomes of amniocentesis performed at a tertiary academic hospital in a middle-income setting, evaluating its impact on prenatal diagnosis and high-risk pregnancy management

Study Design

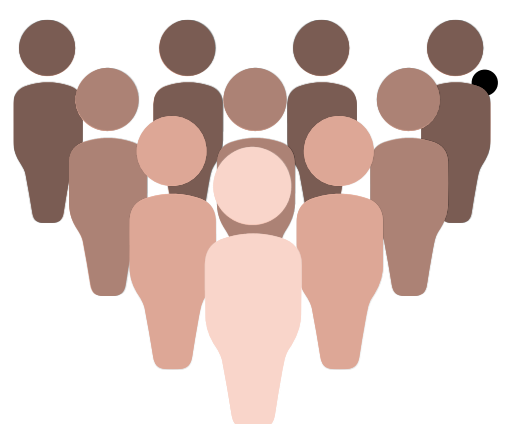
- Cross-sectional study



- Instituto Nacional de Perinatología
- January 1, 2017, through December 31, 2024



- Inclusion criteria: Singleton and twin pregnancies undergoing amniocentesis for genetic assessment
- Primary aim: To describe complications occurring within two weeks post-procedure



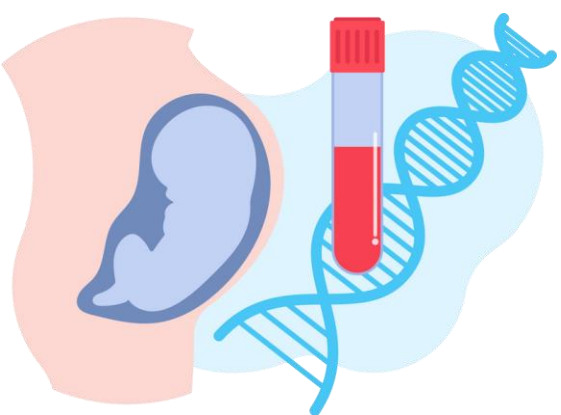
In this complete case descriptive analysis, continuous variables are presented as mean (standard deviation [SD]) or median (interquartile range [IQR]). Categorical variables are reported as numbers and percentages

Results

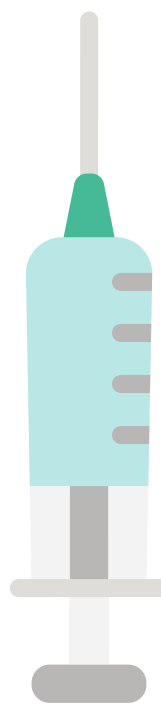
- 415 pregnant individuals met the inclusion criteria**
 - The mean maternal age was 30.3 ± 8.05 years, the gestational age at amniocentesis was 23.1 ± 4.95 weeks, the mean patient's weight was 69.5 ± 12.18 kg, and the corresponding body mass index was 27.7 ± 4.57 kg/cm². Moreover, gravidity was 2 (IQR 1-3). Most pregnancies were singleton (N=405, 97.4%) and spontaneous (N=412, 99.3%)



- Indications for the procedure (not mutually exclusive) included maternal age >35 years (N=117, 28.2%), positive cell-free fetal DNA test for fetal aneuploidy (N=9, 2.2%), ultrasound markers indicating high risk of chromosomal abnormality (N=87, 21.0%), fetal structural anomaly (N=314, 75.7%), and family history of congenital/genetic anomalies (N=25, 6.0%)



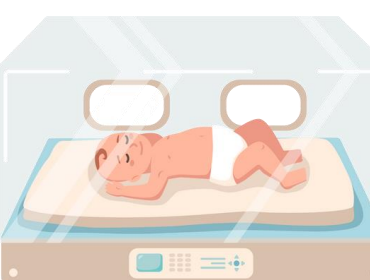
- Genetic studies done (not mutually exclusive) included karyotype (N=383, 92.0%), multiplex ligation-dependent probe amplification (MLPA) (N=23, 5.6%), fluorescence in situ hybridization (FISH) (N=2, 0.5%), microarray (N=1, 0.2%) and not reported in the EMR (N=23, 5.6%)



- Procedures were performed by senior maternal-fetal medicine fellows (N=359, 86.5%) or attending maternal-fetal medicine physicians (N=56, 13.5%), with attending supervision in 99.0% of the cases. Operator changes were required in very few instances (N=3, 0.7%), and single attempts were made in 99.3% of the procedures, using a 22G needle most of the time (N=395, 95.4%)



- The only complications recorded included pregnancy loss (N=1, 0.2%), preterm delivery (N=4, 1.0%), and vaginal bleeding or spotting (N=3, 0.7%)**



- Gestational age at delivery averaged 33.2 ± 6.79 weeks, with latency from procedure to delivery of 10.3 ± 7.20 weeks

Conclusions

Amniocentesis performed in a tertiary academic center in a middle-income setting is a safe and effective procedure with a low rate of maternal-fetal complications similar to the rates reported in high-income settings
Our findings can assist in counseling patients considering amniocentesis in similar contexts

References

- Zemet, R., et al. (2024). International Journal of Gynaecology and Obstetrics.
- Kagino, C., et al. (2024). American Journal of Perinatology