60-second research spotlight: prenatal screening for autosomal trisomies

Study:

Article title: Cell-Free DNA Screening For Common Autosomal Trisomies Using Rolling- Circle Replication In Twin Pregnancies

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Summary

Prospective 2-center study of 862 twin pregnancies. Compared no-call rate and performance against 16,382 singleton pregnancies. Twin samples analyzed on Revvity's Vanadis™ NIPT System showed great performance. While Vanadis™ NIPT System twin samples reported a higher no-call rate than singletons, its twin no-call rate was better than those of competing cfDNA technologies.

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Key takeaways:

1. The study found that using cell-free DNA (cfDNA) as a first-line screening test for common aneuploidies in both singletons and twins is better than biochemical screening.
2. The no-call rate, at first attempt, for common aneuploidy in twins is lower with Vanadis technology (2.0%) compared to other cfDNA technologies (2.9 - 13.2%).
3. In twin pregnancies, the Vanadis™ NIPT System performed strongly with a sensitivity of 100% (25 out of 25 pregnancies) and no false negatives recorded. Note: the number of affected samples in this study was limited, so the performance observed may not be typical.
4. IVF increased the probability of a no-call result in twin pregnancies, but maternal weight or gestational age did not have an impact.
5. The study suggests that the Vanadis™ technology NIPT System is less technically and analytically complex, offers a more attractive cost/benefit ratio when compared to sequencing technologies, and may be a viable alternative to other cfDNA technologies due to recent worldwide reagent shortages.

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