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Analysis of no call results of NIPTS (Panorama)

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Objective

Screening for chromosomal abnormalities by NIPTs (non-invasive prenatal testing) is an important component of clinical practice. The tests have a high test quality and are constantly being developed. In some cases, no evaluation can be made for a variety of reasons. The aim of this work is to analyse all No Call results from our clinic and identify possible reasons for these "test failures".

Methods

Retrospective analysis of all NIPTs (n = 387) from our Division of Prenatal Medicine (UKGM, Gießen). The NIPT (Panorama, Natera) we use is based on the SNP (single-nucleotide-polymorphism) method.

Results

In the period from 09/2016 to 03/2018, there were a total of 387 NIPT's in our division of prenatal medicine. The total no-call test rate of all NIPTs is 5. 17% (n = 20). 17 cases were affected, of which 13 were between 11+0-13+6 weeks. In 12/17 cases re-testing took place, in three cases a further no-call resulted, in seven cases an inconspicuous result and in one case a high risk result. In five cases, a Re-NIPT (Panorama) was omitted and in five cases an invasive diagnosis was performed. Overall, the no call results revealed five chromosomal abnormailities. The reasons for a no result in NIPT include low fetal fraction, a conspicuous chromosome finding (e. g. trisomy 21, triploidy), or inadequate DNA sequencing.

Conclusion

The test possibilities of the various NIPTs are constantly being further developed. The test grades are also very good, depending on the NIPT and the laboratory method. The reasons for a non-evaluatable sample are multifold and show the limitations of the test options.