OBJECTIVE

Perform an analysis of the results obtained from the implementation of the combined prenatal screening test for chromosomal abnormalities from 1st July 2007 until 30th June 2016. Complete a quality control of the test.

METHODS

Combined test were analyzed from July 2007 until June 2016. As quality control, false positives, false negatives, detection rate and multiples of the median of TN, beta-hCG and PAPP-A, were annually calculated. Amniocentesis was indicated in patients with a result of high risk screening test (≥1:270) and in patients ≥ 38 years old.

RESULTS

A total of 10168 screening test were done between 2007 and 2016, 96.78% were performed in the first trimester and 3.22% in the second trimester. 648 high risk screening results were obtained, 555 of them for the first trimester (85.65%) and 93 for the second trimester (14.35%). The rate of false positive (FP) was 5.64% for the first trimester and 28.44% for the second trimester. (Table 1)

The rate of detection throughout the period was 83.33%. In the annual quality control for the first trimester combined test, the median of the MoM for the NT ranged from 0.82 to 0.96; for PAPP-A between 0.82 and 1.06 and for beta-HCG between 0.88 and 1.09. (Table 2)

From the high risk group, 493 (76.08%) agreed to perform amniocentesis and the rest (23.92%) refused to perform the diagnostic test, conducted a test of cell free fetal DNA in maternal blood or had a miscarriage.

CONCLUSION

Combined screening test is a valid method for the prenatal diagnosis of chromosomal abnormalities, but requires a continuous quality control, which we can perform by calculating the medians of the MoMs, considering adequate if they do not deviate more than 5-10% of the unit. We observe that this criteria is reached for BHCG in the last years but not for PAPP-A and the NT, which implies an increase in false positives, greater than the 5% preferred. As a result, the number of invasive tests is increased by this indication.

We can improve our results, reducing false positives and maintaining a high detection rate, if we correct the reference medians of the PAPP-A, improve measurement of the NT and incorporate other ultrasound markers for screening chromosomal abnormalities.