

## First-trimester combined screening for trisomy 21 in women with renal disease

Valentin M, Muller F, Beaujard MP, Dreux S, Czerkiewicz I, Meyer V, Leruez-Ville M, Ville Y, Salomon LJ  
Obstetrics and maternal-fetal medicine, Hopital Necker Enfants Malades, AP-HP, Université Paris Descartes, Paris, France

### Objective

To evaluate the results of first-trimester combined screening in women with chronic renal disease.

### Methods

Fifty-five pregnant women with renal disease were compared with 110 patients matched for maternal age, maternal weight, smoking status, and gestational age at a 1: 2 ratio. Maternal renal function was assayed at the time of the combined screening and renal insufficiency was defined by serum creatinine > 90 µmol/L and renal clearance < 80 mL/min. We defined 3 groups based on renal function: kidney disease and normal function (group 1), kidney disease and renal insufficiency (group 2) and a control group (group 3). The values of nuchal translucency, PAPP-A and hCGβ as well as false-positive rates for Down syndrome screening were studied and compared between groups.

### Results

There were 39 (71%) and 16 (29%) cases in groups 1 and 2 respectively. Maternal age, nuchal translucency and MoM PAPP-A were similar in the 3 groups. However, mean serum hCGβ levels were higher in group 2 than in groups 1 and 3. (7.048 v. 2.16 v. 1.1 MoM, p= 0.0001). The resulting screen-positive rate (SPR) was also higher in group 2 than in groups 1 and 3 (43.5% v. 10.2% v. 5.5%, p = 0.0001). There were two cases of trisomy 21 in group 3 and none in groups 1 and 2.

### Conclusion

First-trimester combined screening for trisomy 21 based on hCGβ is not suitable in the case of maternal renal failure.