Screening for spontaneous preterm delivery and preeclampsia in the first trimester in twins
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Objective
To evaluate the role of ultrasound cervical length and uterine artery Doppler at 11+0 to 13+6 weeks gestation as predictors of spontaneous early preterm birth (sPTD), fetal growth restriction (FGR) and preeclampsia (PE) in twin pregnancies.

Methods
This is an ongoing prospective study involving 7,220 pregnancies who underwent standardized transvaginal scan for evaluation of cervical length (CL) and uterine artery (UtA) Doppler at 11+0-13+6, including 87 twin pregnancies (1.2%). Maternal characteristics and ultrasound variables were studied using a multiple regression analysis as predictor of either sPTD before 35 weeks, developed PE or FGR in twin pregnancies.

Results
The rates of sPTD before 35 weeks, PE and FGR in twin pregnancies were 13.8%, 9.2% and 19.5, respectively, which were significantly higher rate than singleton pregnancies. Thirty three pregnancies (37.9%) were defined as monochorionic twin. Maternal characteristics such as conception and body mass index were associated with sPTD. Nulliparity and conception were predictors of PE and FGR, respectively. However, there were no differences in CL and UtA Doppler in those women who delivered before 35 weeks or developed either PE or FGR compared to controls.

Conclusion
This study confirmed that twin pregnancies are a high risk group for spontaneous and iatrogenic preterm delivery. However, UtA Doppler and CL showed not to be useful in predicting these outcomes during the first trimester of pregnancy. Supported by Fondecyt No 1130668.

Figure. First trimester cervical length and mean PI uterine artery Doppler in twin pregnancy with and without preterm delivery (A) and preeclampsia (B)