This study measured cervical length (CL) at 11-14 and 23-24 weeks of gestation in an asymptomatic patients with singleton pregnancies to determine the potential value of difference between measurements for prediction of preterm delivery.

**Methods:** A retrospective, multicenter, cohort study was performed with 2638 singleton pregnancies from 1 January 2013 to 31 December 2017. CL was measured consecutively on transvaginal sonography at 11–14 weeks (CX1) and 23–24 weeks (CX2), by trained operators as a straight line from external to internal os. Medical records were reviewed for demographic, medical and obstetric history; complications during the current pregnancy and delivery data. CX1, CX2 and the change between scans were evaluated and correlated to PTD prediction.Data were analysed using SPSS v21.0 software. The relationship between CX1 and CX2 measurements and the risk of preterm delivery at <37 weeks was analyzed. Student’s t-test and Mann-Whitney U-test were used to compare continuous variables. Chi-square and Fisher’s exact tests were used for categorical variables. Results were considered significant when the P-value was less than 0.5.

**Results:** Among 2638 patients, 2435 (92.3%) delivered at term (≥37 weeks) and 203 (7.3%) preterm (<37 weeks). CX1 was not a good predictor of PTD (P=0.70). CX2 was significantly shorter in the PTD group (P<0.05). The correlation between CL change and PTD was not significant (P=0.55). The associations between PTD and maternal characteristics are shown in Table 1. Table 2 shows correlation between cervical length CL and preterm delivery. The correlation between CL measured at 11–14 weeks (CX1) and 23–24 weeks (CX2), and risk of preterm delivery was not significant (P=0.554). The proportion of women with short CL increased with gestational age: for CL≤25 mm, from 0.41% (95% CI, 0.19–0.63%) at CX1 to 2.38% (95% CI, 1.35–2.23%) at CX2.

For CLs≥20 mm, from 0.03% (95% CI, 0.00–0.20%) at CX1 to 0.85% (95% CI, 0.54–1.16%) at CX2. The probability of having a short cervix (≤25 mm in the second trimester) was inversely associated with CX1 Patients with CX1 ≥30mm had a very low (<2%) probability of having a short second-trimester CL (CX2), in contrast to women with CX1 ≤30mm who had a markedly increased probability of having a short CL at 23–24 weeks(CX2). Risk of spontaneous PTD was higher among women with a short CL in the second trimester (CX2).

**Conclusions:** Sonographic measurement of CL at 11-14 weeks gestation and the difference between CL in the first and second scans are not reliable predictors of PTD. Cervical length at 21-24 weeks in low-risk women was predictive of PTD. Once short CL was observed, risk of preterm delivery was greatly increased.

**Discussion:** In this retrospective, multicenter, cohort study, CL was measured two times over the period 11–24 weeks’ gestation, and it was demonstrated that, in a low-risk population of women with a singleton pregnancy, the proportion of CL≤25mm was low (0.4% at 11–14 weeks, and only 2.5% at 19–24 weeks). It was found that the probability of having a short second-trimester CL was higher for those with a short first-trimester CL.

The role of early cervical measurement in predicting PTD is controversial. Several studies concluded that early measurement cannot predict PTD among low-risk or high-risk women. Early prediction of PTD might enable preventive treatment with vaginal progesterone. The role of late second trimester CL measurement as a predictor for PTD is well established. Cervical length at 21–24 weeks among women at low-risk for PTD is predictive of this complication.