OBJECTIVES: To measure the uterocervical angle (UCA) in vivo in the second trimester and determine whether it correlates with the risk of spontaneous preterm birth (sPTB).

METHODS: Prospective study with 1244 women enrolled so far, of which 499 have already completed the study. Singleton pregnancies between 18 and 23.6 weeks of gestation were eligible to participate. UCA and cervical length (CL) were measured with transvaginal ultrasound. Maternal and fetal characteristics were recorded. Delivery data was collected subsequently.

RESULTS: Preterm delivery under 37 weeks occurred in 34 patients, of whom 18 (3.6%) had started labor spontaneously. Term delivery occurred in 465 women (93.1%). Mean UCA in the second trimester was 101.7º [CI: 87-116,4] in the spontaneous preterm deliveries and 103,6º [CI: 101,1-106,2] in the deliveries at term. UCA over 105º was found in 55,6% of the preterm deliveries and in 45,2% of the deliveries at term. LC under 25mm was found in 5,6% of the preterm deliveries and in none (0%) of the deliveries at term.

CONCLUSIONS: A wide uterocervical angle has been suggested as a predictor of sPTB in different retrospective studies. However, it is noteworthy that mean UCA in both preterm and term groups differs from study to study. Differences in gestational age at ultrasound scan and the fact that every study had a number of patients whose UCA could not be measured due to a suboptimal cervical image could explain the differences. We present the first prospective study with ultrasound examinations aimed at measuring the UCA in vivo. Mean UCA in women that delivered at term is significantly higher compared with published studies. More patients are needed in the spontaneous preterm delivery group in order to draw conclusions about the relationship between UCA and spontaneous preterm birth.

The UCA is the angle formed by the cervix and the lower uterine segment. In order to measure it, the external and internal cervical orae, including the isthmus, are identified and a line is drawn between them. A second line is then drawn parallel to the lower aspect of the anterior uterine wall, passing through the end of the first line in the internal cervical os (including the isthmus) and up to a distance of ideally 3cm. The angle created by the intersection of the two lines is measured.