Introduction
Vaginal delivery is frequently cited as an important risk factor for pelvic organ prolapse. Pregnancy itself causes pathological changes to the pelvic floor. Incomplete recovery in anatomy and function may follow macroscopic trauma to the pelvic floor or pregnancy itself can lead to connective tissue remodeling and disruption of the normal pelvic floor function. Little is known about the changes of pelvic floor during labor. The aim of this study was to investigate the changes of the morphology and structure of pelvic floor during labor using translabial three-dimensional (3D) ultrasound.

Methods
The morphology and structure of pelvic floor was measured at closed cervix, dilatation of 4cm, full dilatation, and after delivery using 3D ultrasound.

Results
The morphology and structure of pelvic floor were assessed in all cases (n=10). Among various parameters, hiatal anteroposterior (AP) diameter increased from dilatation of 4cm. Hiatal lateral diameters increased from full dilatation. Levator ani muscle thickness increased after delivery. Hiatal angle decreased from dilatation of 4cm. Hiatal areas were not different between closed cervix and dilatation of 4cm. However, hiatal areas increased at full dilatation compared with at closed cervix and dilatation of 4cm but there was no difference in hiatal areas between at full dilatation and after delivery.

Conclusion
In this study, we found that the changes of the morphology and structure of pelvic floor during labor. This suggests that labor may affect on the morphology and structure of the pelvic floor before delivery.