Introduction
Imperforate anus (IA) is classified into three types: high, intermediate, and low. Neonatal treatment is determined on the basis of this classification. Recently, the absence of fetal anal ring structure (ARS) on 2D ultrasound was reported to be a highly sensitive and specific marker for IA. However, most previous reports included only high and intermediate types. Therefore, the objective of this study was to investigate whether sonographic identification of fetal ARS is valuable for prenatal detection of low-type IA.

Methods:
This retrospective study evaluated the fetal anus in all pregnant women, including low- and high-risk populations, between 2012 and 2017. Neonates with IA underwent perineal sonography before surgery.

Result:
Four neonates were diagnosed with low-type IA during this period. All cases had an anocutaneous fistula. Three cases were suspected of low-type IA and one case was considered to have a normal anus prenatally. In all four fetuses the ARS image was visualized. The three fetuses were suspected of low-type IA because the subcutaneous portion of the ARS was small or unclear. Neonatal sonography visualized the anocutaneous fistula as a normal ARS in two cases, but the subcutaneous portion of the ARS seemed small in the remaining two cases.

Conclusion
The absence of fetal ARS cannot be a useful marker to detect low-type IA because the anocutaneous fistula can be visualized as an ARS image similar to the normalanus. The finding of the subcutaneous portion of the ARS seemed to be important to suspect low-type IA with anocutaneous fistula.