Introduction
There is emerging evidence that Indigenous women with diabetes (DM) in pregnancy and their offspring have poorer health outcomes compared to the non-Indigenous population.

Objectives
To determine the performance of obstetrical ultrasound amongst Indigenous women with pre-gestational DM.

Methods
This was a retrospective cohort study of ultrasound (US) data from pregnancies within the Next Generation longitudinal cohort. The Next Generation Study is an Indigenous birth cohort of children born to mothers with pre-gestational type 2 DM. Antenatal variables, perinatal outcomes, and US information from stored reports and images were collected. Antenatal ultrasound diagnoses were correlated to postnatal findings by a blinded observer and descriptive statistics used to analyze outcomes. McNemar’s and paired t-tests were further used to compare outcomes and evaluate US performance in this high-risk cohort.

Results
112 mother-child pairs between 1995 and 2015 were identified. Most mothers in this cohort were young (mean age 21 years), overweight/obese (72%), and had suboptimal glycemic control periconceptionally (median HbA1C 9.3%). 25% of midtrimester scans were reported as incomplete due to inadequate visualization of fetal anatomy and required repeat examinations. Almost 1 in 5 fetuses had structural anomalies, and the most common were renal anomalies. Additionally, 31.8% of offspring were diagnosed with single umbilical arteries. Midtrimester US missed one-third of anomalies including 3 of 7 cardiac defects in this cohort. Third trimester ultrasound of estimated fetal weight (EFW) prior to delivery also significantly underestimated birthweight (p<0.05).

Conclusion
Knowledge of the high incidence of incomplete anatomic surveys and undiagnosed anomalies (particularly cardiac) can be used to better inform timing, performance and counseling of obstetrical US in this high-risk population. The significant underestimation of birthweight may also directly impact intrapartum care and warrants further consideration and future study.