Background Hypoglycaemia is a leading cause of admissions to neonatal units. A major risk factor for neonatal hypoglycaemia is maternal gestational diabetes mellitus (GDM). Since 2013, diagnosis of GDM in the UK has relied upon the oral glucose tolerance test (OGTT) at 28 weeks of pregnancy. In response to the COVID-19 pandemic, however, guidance released by the Royal College of Obstetricians and Gynaecologists [RCOG] (2020) advised replacing OGTT with alternative measures such as HbA1C and random blood glucose (RBG) measurement.

Objectives 1. Compare the number of neonatal admissions for hypoglycaemia to a level two unit before and during the COVID-19 pandemic.
2. Detect differences in diagnostic modalities used for gestational diabetes in mothers of newborns admitted with hypoglycaemia before and during COVID-19.

Methods Neonates admitted with hypoglycaemia to our unit during two time periods - April to August 2019 and April to August 2020 - were identified using an online portal and formed the two groups for auditing. Maternal and neonatal health records were then retrospectively reviewed to determine: (1) the presence of risk factors for GDM during pregnancy among mothers of neonates in both groups, and (2) the diagnostic methods for GDM performed in mothers of neonates in each group. We further collected data on selected outcomes for neonates, including length of stay, IV glucose delivery, umbilical venous cannulation (UVC) and parenteral feeding, in both groups.

Results The number of neonatal admissions with hypoglycaemia before and during COVID-19 was significantly different (group 2 [n=32] vs group 1 [n=17]). Fewer newborns admitted during COVID-19 had a mother with a diagnosis of GDM (group 2 [15.6%] vs group 1 [23.5%]) despite mothers of newborns in this group being more likely to be at risk for GDM (group 2 [69.6%] vs group 1 [64.3%]). In all, less OGTTs were performed in mothers of neonates admitted with hypoglycaemia during COVID-19 than before (group 2 [31.3%] vs group 1 [35.3%]) and HbA1C and RBG measurements were more likely to be performed (group 2 [25%] vs group 1 [0%] and group 2 [15.6%] vs group 1 [11.8%], respectively). Nevertheless, median length of admission for newborns was shorter during the COVID-19 pandemic (group 2 [4 days; IQR 2–16] vs group 1 [7 days; IQR 3–11.5]) and the proportion receiving treatments such as intravenous glucose did not increase [53.1% vs 58.8%].

Conclusions The number of admissions to NICU of newborns with hypoglycaemia increased considerably during the COVID-19 pandemic. This rise is likely, at least in part, to reflect missed diagnoses of GDM in pregnancy, resulting in less access to treatment for mothers and delays in identification of newborns at risk for hypoglycaemia. As there exists some overlap among our COVID-19 group as to when changes to maternal screening for GDM were introduced and when OGTT was still in use, we have extended this study and further data collection is underway which may reveal greater differences between our groups.