

Incidence of early neonatal hypoglycemia and some related risk factors in Qatar. A cohort study over two years (2018 and 2019)

Ashraf Soliman , Hamdy Ali, Nada Alaaraj, Fawzia Alyafei, Noor Hamed , Shayma Ahmed,
Hamad General Hospital, Doha, Qatar



A high occurrence of early hypoglycemia in normal newborns using universal screening has been reported. The incidence of early hypoglycemia in the presence of other classical risk factors varies in different studies compared to the incidence in the general population

Objective:

The objective of this study is to determine the incidence of early neonatal hypoglycaemia and to confirm potential risk factors.

Study design:

The study was conducted at a tertiary Medical Centre in Qatar. between January 2018 and December 2019.

First blood glucose concentrations of all infants admitted to the nursery were measured using a "point of care" analyser (Accu-Chek).

We recorded risk factors for hypoglycaemia such as birth weight, gestational age, and maternal diabetes. The diagnosis of hypoglycaemia cut-offs was 47 mg/dl for full-term (FT) and 40 mg/dl for preterm infants.

Results:

Of 16783 and 17000 new-borns admitted during 2018 and 2019 respectively and were analysed.

Discussion:

A 1988 multicentre nutritional study by Lucas et al. suggested a blood glucose concentration <47 mg/dL as the critical threshold associated with adverse neurodevelopmental outcomes. Even moderate hypoglycaemia is associated with a considerable increase in adverse neurodevelopmental sequelae. Our annual incidence of neonatal hypoglycaemia (4.1% and 6.3% in 2018 and 2019 respectively) is considerably low compared to previously reported incidence by Bromiker et al and Harris et al (12.1 % and 12.75% respectively) Incidence of early neonatal hypoglycaemia and some risk factors in Qatar. A cohort study over two years (2018 and 2019)

Year	2018	2019
Newborns	16783	17000
N-Hypoglycemia	691	1073
Length of hospital stay/day	9.6	7.27
IDM	445	712
Not IDM	246	362
Males	363	553
Females	328	522
Incidence of N Hypoglycemia /1000	41.17	63.12
Incidence of IDM/1000	26.51	41.88

Conclusions:

- We showed an increasing trend in the incidence of neonatal hypoglycaemic in 2019 versus 2018.
- IDM constituted 64% and 66% of the total number of N hypoglycaemia in 2018 and 2019 respectively.

