

DIAZOXIDE

ACTION and USES

Used in the management of persistent hypoglycemia. It acts by blocking insulin release. Always prescribe with a diuretic which helps to counteract the fluid retention caused by diazoxide. The first choice of diuretic is chlorothiazide, as this has additional effects on suppression of insulin secretion. Alternative diuretics will be required if the diazoxide dose is greater than 10mg/kg/day (see monitoring paragraph).

PRIOR TO STARTING

Perform an echo before use, looking for any specific cardiac diagnosis or pulmonary hypertension
Diazoxide should not be started in the presence of a cardiac defect unless specifically guided by Endocrinologist, as providing additional concentration of IV glucose (and/or alternative medication) may be a more suitable option
 Reduce fluids to 120-130ml/kg/day according to endocrine plan.

DOSAGE

Follow 4 step process carefully-ask a consultant if not sure

Step 1: Choose the appropriate daily dose **from table** (determined by baby's birth weight).

Birth weight	Daily dose mg/kg/day
< 2kg	2
2.0-3.5kg	3
>3.5kg	5

Step 2: Calculate the daily dose baby will receive now using their current weight.

Step 3: Divide this daily dose into 3 doses, i.e. 8 hourly

Step 4: Round each divided dose to the nearest 0.5mg for ease of oral administration (1mg = 0.02ml of 50mg/mL solution)

E.g. Baby Button weighed 1.5kg at birth and now weighs 2.3kg. The daily dose (based on the birth weight) is 2mg/kg/day. Since Baby is now 2.3kg the calculated daily amount will be 4.6mg per day. If we divide this into 3 doses, each dose is 1.53mg. This would then be rounded to 1.5mg, 8 hourly and prescribed on the kardex as 1.5mg (0.03ml) 8 hourly.

Always prescribe the oral dose in mg and equivalent volume in mLs. For example using the current product containing 50mg/ml then a dose 4mg must be prescribed as **4mg (0.08mL)**

NOTE: Volumes are very small and usually <0.1mL. If greater than this, recheck calculation.

Aiming for blood glucose (BG) of 3.5 – 5.9mmol/L

Dose effects should be observed for 24-48 hours before changes are made.

BG persistently over 8mmol/L may suggest over treatment.

All doses and dosage adjustments should be under the direction of an endocrinologist

May be increased gradually to a **maximum dose** of 5mg/kg 8 hourly (15mg/kg/day)

PREPARATION

It is available as an unlicensed suspension containing diazoxide 50mg/mL. Shake well before use.

STORAGE

Store at room temperature, protect from light (keep in box) and discard 3 months after opening.

Oral Medicine Guidelines

Prepared by: Judith Orme and Jenny Carson January 2021

Checked by: Caroline O'Hare

Approved by: NNU pharmacy group 6.1.21

Lothian Neonatal Service

Review date: January 2023

CAUTIONS

Aortic coarctation, aortic stenosis, arteriovenous shunt, heart failure, hyperuricaemia, impaired cardiac circulation, impaired cerebral circulation

MONITORING

Discuss following with endocrinologist. Monitor blood glucose. Blood pressure should be checked intermittently and after dose changes. Over first few days measure input and output closely, measure weight daily and U&E's frequently in the early period. Monitor white cell and platelet count during prolonged use. Regularly assess growth, and bone during prolonged use.

If the dose of diazoxide exceeds 10 mg/kg/day chlorothiazide should be changed to furosemide and spironolactone, due to the increased risk of fluid retention.

SIDE-EFFECT

Common side effects: Fluid retention, hypertrichosis, hyperuricaemia, hypotension, rarely leucopenia, thrombocytopenia.

Ref Roženková K, Güemes M, Shah P, Hussain K. The Diagnosis and Management of Hyperinsulinaemic Hypoglycaemia. *J Clin Res Pediatr Endocrinol.* 2015;7(2):86-97