Glycerin Guideline

Newborn use

Indication	Facilitation of passage of meconium. Constipation.
Action	Osmotic laxative that acts by increasing osmotic pressure in the gut; It also stimulates rectal contraction. Onset may take 15–30 minutes
Drug Type	Laxative
Product Brand Name	Pedia-Lax® Liquid glycerin suppositories (4 ml bottle)
Dosage / Interval	Glycerin suppository – sliver Glycerin liquid – 0.5 mL/kg
Maximum daily dose	Glycerin liquid Dose of 0.5 mL/kg at 12–24-hour intervals
Route	Per rectum
Preparation/Dilution	Glycerin suppository – cut a small sliver Glycerin liquid enema – draw ordered amount into syringe
Administration	Glycerin suppository – gently insert the sliver fully into the rectum. Glycerin liquid – draw 0.5 ml/kg into appropriate size syringe (1 mL- 3 ml for most infants). Attach ENFIT straw attachment or oral feeding tube and prime with the solution. Insert 1–2 cm of ENFIT straw or feeding tube through anus and administer ordered amount 
Monitoring	Stool output
Contraindications	Dehydration, rectal bleeding
Precautions	Congenital gastrointestinal conditions – to discuss with surgeon prior to prescription. Major cardiac defects (risk of fluid shift)
Adverse Reactions	Diarrhea, rectal irritation, bleeding per rectum (from insertion of the syringe), abdominal pain
Stability	Glycerin liquid preparation – per expiration date on container Discard unused portion
Storage	Glycerin suppository – keep refrigerated Glycerin liquid enema – store at room temperature

Evidence summary
Efficacy:

Feed intolerance: Systematic reviews that enrolled preterm infants <32 weeks' gestational age (GA) and/or <1500 g birth weight showed that prophylactic administration of glycerin laxatives did not reduce the time required to achieve full enteral feeds and did not influence duration of hospital stay, mortality or weight at discharge.[2,3,4] However, an observational study by Shim 2007 reported routine use of glycerin enema in infants <1500 g birthweight resulted in a shorter time to full enteral feeds and reduced sepsis rate.[5] This suggests that further trials of glycerol for prevention or treatment of constipation in at risk preterm infants are required. They used 1:4 diluted glycerol at 1 mL/kg every 12–24 hours.

Hyperbilirubinemia: Systematic review to study the efficacy of early meconium evacuation using per rectal laxatives on the concentration of serum bilirubin and the need for phototherapy in healthy term infants identified 3 trials. Two trials used glycerin suppository whereas one used glycerin enema for meconium evacuation. Meta-analysis was not possible due to clinical heterogeneity in the choice of laxatives and frequency of intervention. In all three studies, serum bilirubin at 48 h and the need for phototherapy was not significantly different between the two groups.[6]

Glycerine enemas versus suppository: 0.2 mL of 80% glycerol liquid enema administered with a syringe has been shown to be as effective in terms of passage of stool and easier to administer in comparison to glycerin suppository chip in neonates.[7]

Glycerine enema preparations: Shim et al performed glycerin enema at 1 ml/kg every 12–24 h within 24 h after birth in their study. Glycerol was diluted 1: 4 with distilled water and was instilled slowly through a 5F Nelaton catheter which was cut to 3 cm and connected to a syringe. The tip of the catheter was placed 0.5 cm above the anus.[5] Zenk et al used 0.2 mL of 80% glycerol liquid based on the strength indicated in FDA monograph for non-prescription laxative. The authors chose 0.2 mL irrespective of the body weight based on the comparative approximate volume of chip of suppository.[7]

Safety: Trials conducted in neonates were underpowered to report any uncommon serious adverse effects.

References

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