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Bisacodyl and Lecicarbon A/C Suppositories in Constipation

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Key Amendment

Date	Amendment	Approved by
October 2024	Document approved	Paediatric Governance Meeting

Background & Indications for use:

For use in children / young people with constipation, who have continued gastrointestinal symptoms, having trialled standard laxatives. Bisacodyl and Lecicarbon A/C suppositories are for use in children and young people with constipation, usually for those patients that have distal bowel evacuating problems. This could include, poor or no sensation of needing to empty bowels, difficulty starting bowel evacuation, not feeling empty after you have been to the toilet, leakage after a bowel movement, erratic bowel function and congenital abnormality patients, such as Hirschsprung's Disease, Ano-rectal malformation, neuropathic bowel and spinal bifida.

Mechanism of action:

Bisacodyl acts locally in the large bowel by directly enhancing the motility, reducing transit time, and increasing the water content of the stool. It is a stimulant laxative acting through stimulating enteric neurons to cause peristalsis. It is also a contact laxative; it increases fluid and salt secretion. The suppositories take between 10 to 45 minutes to work.

Lecicarbon A/C Suppository overcomes constipation exclusively via the supply of CO₂ which is slowly released in fine bubbles from the suppositories after they are inserted into the rectum. CO₂, which is produced in excess, activates intestinal movement and triggers the evacuation reflex generally within 15 to 30 minutes, without causing irritation, cramps or other side effects. Carbon dioxide (CO₂) is the main constituent of the gaseous products of metabolism, which are formed on digestion of the intestinal contents. Of all the intestinal gases, it is the one which causes the most intense stimulation of movement of the rectum.

Preparation:

Both are available as suppositories to be given per rectum

Dosage Information:

- Bisacodyl suppository Licenced for children aged 2–17 years. 5–10 mg once daily, dose to be adjusted according to response.

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- Lecicarbon C is recommended aged 1-11 years of age (250mg Sodium Bicarbonate and 340mg Sodium dihydrogen phosphate anhydrous). Administer one suppository when needed once daily. Occasionally this can be repeated after 30-60 minutes
- Lecicarbon A is recommended ≥ 12 years of age (500mg Sodium Bicarbonate and 680mg Sodium dihydrogen phosphate anhydrous). Administer one suppository when needed once daily. Occasionally this can be repeated after 30-60 minutes

Duration of treatment:

- Variable due to patient symptoms
- Could be as required or regular dosing

Administration details:

- Open the package and remove one suppository from the pack
- Insert one suppository into the rectum when needed
- NB insertion is easier if you dip the end into some water
- NB by lying on the left side and raise the right knee upwards can help with administration
- Do not use oil or petroleum jelly as a lubricant
- Do not use after the expiry date on the package

Storage requirements:

Keep out of reach and sight of children. Store in cool dry place.

Adverse effects:

Bisacodyl can cause:

- Common or very common - Gastrointestinal discomfort; nausea
- Uncommon - Haematochezia; vomiting
- Rare or very rare - Angioedema; colitis; dehydration

Lecicarbon A & C can cause a burning sensation.

Contraindications:

Acute abdominal conditions; acute inflammatory bowel disease; intestinal obstruction (ileus); anal fissures; severe dehydration

Allergy to either Bisacodyl or to sodium hydrogen carbonate, sodium dihydrogen phosphate or any of the other ingredients of Lecicarbon A/C Suppository. The product info for Lecicarbon also advises against use if allergic to peanut or soya.

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In the presence of toxic megacolon (enlargement of the end of the large intestine due to various causes) the medication should ONLY be used with permission from a treating clinician

Cautions:

Excessive use of stimulant laxatives such as Bisacodyl can cause diarrhoea and related effects such as hypokalaemia; prolonged use may harm intestinal function; risk of electrolyte imbalance with prolonged use

Do not exceed the recommended daily intake

Bisacodyl and Lecicarbon A or C should not be used as a substitute for a balanced and varied diet and healthy lifestyle

Compatibility:

You can use Bisacodyl or Lecicarbon A or C Suppository while taking other medicines. Please tell your doctor or pharmacist if you are taking or have recently taken any other medicines, including medicines obtained without a prescription

Monitoring:

- Patients and Guardians should be counselled on the common side effects which are abdominal discomfort and urgency to defecate
- Patients will be reviewed within a few months of starting suppositories and then can be continued to be monitored in the community by the patients GP

Other current laxative medication

There are many laxative medications available on the global market, however they can work differently and are often considered outside the scope of practice in Paediatrics. In the use of those patients that have distal bowel evacuating problems, there is no other per rectum alternative to Bisacodyl or Lecicarbon A/C suppositories.

Glycerol suppositories can act as a softener/lubricant and as a rectal stimulant by virtue of the mildly irritant action of glycerol but are less effective

Stimulant laxatives

Stimulant laxatives include bisacodyl, sodium picosulfate and members of the anthraquinone group, senna, co-danthramer and co-danthrusate. Stimulant laxatives increase intestinal motility and often cause abdominal cramps; they should be avoided in intestinal obstruction.

The use of co-danthramer and co-danthrusate is limited to constipation in terminally ill patients because of potential carcinogenicity (based on animal studies) and evidence of genotoxicity.

Docusate sodium is believed to act as both a stimulant laxative and as a faecal softener (below).

Faecal softeners

Faecal softeners are claimed to act by decreasing surface tension and increasing penetration of intestinal fluid into the faecal mass. Docusate sodium and glycerol suppositories have softening properties. Enemas containing arachis oil (ground-nut oil, peanut oil) lubricate and soften impacted

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faeces and promote bowel movement. Liquid paraffin has also been used as a lubricant for the passage of stool, but manufacturer advises that it should be used with caution because of its adverse effects, which include anal seepage and the risks of granulomatous disease of the gastro-intestinal tract or of lipoid pneumonia on aspiration.

Osmotic laxatives

Osmotic laxatives increase the amount of water in the large bowel, either by drawing fluid from the body into the bowel or by retaining the fluid they were administered with. Lactulose is a semi-synthetic disaccharide which is not absorbed from the gastro-intestinal tract. It produces osmotic diarrhoea of low faecal pH and discourages the proliferation of ammonia-producing organisms. It is therefore useful in the treatment of hepatic encephalopathy.

Macrogols (such as macrogol 3350 with potassium chloride, sodium bicarbonate and sodium chloride) are inert polymers of ethylene glycol which sequester fluid in the bowel; giving fluid with macrogols may reduce the dehydrating effect sometimes seen with osmotic laxatives.

Macrogols are an effective non-traumatic means of evacuation in children with faecal impaction and can be used in the long-term management of chronic constipation.

Bowel cleansing preparations

Bowel cleansing preparations are used before colonic surgery, colonoscopy, or radiological examination to ensure the bowel is free of solid contents; examples include macrogol 3350 with anhydrous sodium sulfate, potassium chloride, sodium bicarbonate and sodium chloride, citric acid with magnesium carbonate, magnesium citrate with sodium picosulphate and sodium acid phosphate and sodium phosphate. Bowel cleansing preparations are not treatments for constipation.

Bulk forming laxatives

Bulk-forming laxatives include bran, ispaghula husk, methylcellulose and sterculia. They are of particular value in children with small hard stools if fibre cannot be increased in the diet. They relieve constipation by increasing faecal mass, which stimulates peristalsis; children and their carers should be advised that the full effect may take some days to develop. Adequate fluid intake must be maintained to avoid intestinal obstruction, though this may be difficult for children.

Methylcellulose, ispaghula husk and sterculia, may be used in patients who cannot tolerate bran. Methylcellulose also acts as a faecal softener.

References

Kuntz, F. (2021) Package leaflet: Information for the user. Lecicarbon A/C suppository. For use in children. Version 2: 19-22.

National Institute for Health and Care Excellence. (2017) Constipation in children and young adults (NICE guideline CG99).

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