

Senna Associated Dermatitis

A mother called the Maryland Poison Center about her 13-month-old son who developed severe diaper rash and blistering overnight. The day before, the mother had found an open package of chocolate coated stimulant laxatives, the mother was initially unsure if the child ingested any of the laxatives or the dog had ingested them.

Constipation is one of the most common reasons for healthcare visits. Treatment of constipation includes dietary modification and laxatives. Over the counter (OTC) laxatives include senna, docusate, polyethylene glycol 3350, and bisacodyl. Senna is a readily available stimulant laxative available in multiple dosage forms including tablets, liquid, and chocolates. Children commonly ingest laxatives in exploratory ingestions and almost 10,000 exposures are reported to US poison centers every year.

Senna is derived from the *Cassia acutifolia Delile* plant which contains multiple sennosides. Sennosides are anthraquinone laxatives that are not absorbed in the upper gastrointestinal (GI) tract. Bacteria in the lower GI tract cleave sennosides into rhein, which cause stimulation of peristalsis in the colon (*Front Pharmacol. 2021;12:714586*). Because this medication is used for constipation, it can cause diarrhea, especially when taken in larger than recommended doses.

Ingestion of laxatives in people without constipation understandably leads to diarrhea. This has historically been considered the most severe effect and is generally managed by maintaining hydration. In 1999, the US Food and Drug Administration ordered companies to remove phenolphthalein from OTC laxatives and it was subsequently replaced with senna. Since then, several cases of senna associated dermatitis have been reported in the medical literature. Injuries are often a diamond-shaped lesion on the buttocks, have borders that align with diaper edges, and spare perianal tissues and the gluteal cleft (*Arch Dermatol. 2012;148(3):402*).

In 2003, six poison centers conducted a prospective observational study of children 5 years and younger who ingested senna-containing laxatives. They included children who experienced diarrhea and were followed for at least 24 hours. One hundred and eleven exposures were reported over the 9-month period and 88 included. Severe diaper rash occurred in 29/88 (33%) and blisters occurred in 10/88 (11%). Time to onset of diarrhea ranged from 1 to 12.5 hours and time to onset of blisters was 6 to 24 hours. Skin breakdown lasted for 36 to 96 hours. Continued use of diapers was associated with skin breakdown (*Ann Pharmacother. 2003;37(5):636*). These cases occurred despite recommendations to protect the perianal area with cleaning and a barrier ointment.

Prevention of burns includes frequent diaper changing, cleaning, and barrier ointments like zinc oxide-based diaper cream. In children with severe burns and excoriation, good wound care is important. This reaction is not thought to be allergic and should not preclude subsequent use later in life (*Pediatr Dermatol. 2017;34(2):e85*). Call your local poison center at 1-800-222-1222 for patient specific treatment and monitoring recommendations.



Senna flower

Did you know?

This reaction is not documented with other over the counter laxatives.

There are multiple over the counter laxatives approved for use in adults and children. These include bisacodyl, docusate, polyethylene glycol, magnesium hydroxide, glycerin suppositories, and senna. Each has side effects, but dermatitis is most reported with senna. Hydration and frequent cleaning should be performed with use of any laxative. Healthcare providers need to counsel caregivers on appropriate dose and duration, along with how to mitigate expected adverse effects.

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