

# Neonates with lower gastrointestinal bleeding

## Abstract

In clinical practice, neonates with Lower Gastrointestinal Bleeding (LGIB) are occasionally seen. LGIB in neonates is caused by a variety of circumstances, and the babies are usually treated according to the underlying pathology that causes LGIB. Although the majority of these bleeding episodes are self-limited, many newborns with LGIB may require immediate medical attention, including surgery. The goal of this review paper is to examine the etiology, epidemiology, clinical symptoms, and management strategies of LGIB in newborns using pertinent literature.

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## Introduction

The gastrointestinal tract has a huge surface area and is a highly vascularized organ. Gastrointestinal bleeding can be caused by a variety of medical conditions. Bleeding distal to the Treitz ligament, which is located at the duodenojejunal junction, is referred to as LGIB. In clinical practice, LGIB in neonates and babies is a common occurrence. According to a previous report, approximately one-third of patients presenting to the emergency department with rectal bleeding had LGIB, whereas the rest have upper gastrointestinal bleeding [1-4].

In the United States, the annual incidence of LGIB in children is 6.8 cases per 10,000 hospital discharges. LGIB might manifest as hematochezia, melena, or occult gastrointestinal bleeding, depending on the qualitative characteristics of the stool. Hematochezia is a term that refers to bright red blood in the faeces and is usually used to diagnose LGIB. Melena is a black, tar-like stool that is commonly associated with upper gastrointestinal haemorrhage [5]. Occult gastrointestinal bleeding is not visible to the naked eye, and iron deficiency anaemia is the most common etiological factor in these children. The purpose of this paper is to evaluate the causes of lower gastrointestinal bleeding and therapeutic techniques in newborns with LGIB, as well as provide a quick overview of the literature.

## Maternal blood ingested

This is a prevalent etiological factor in infants with LGIB who present to the hospital. In many circumstances, the

rectal blood comes from the mother. The most common causes are neonates ingesting mother's blood during birth or ingestion of mother's blood through ruptured nipples while breastfeeding. The apt test (haemoglobin alkaline denaturation test) is useful in determining whether or not maternal blood has been ingested [6,7].

The test is based on the chemical rule that newborn HbF is more resistant to alkali denaturation than adult HbA. The colour of adult Hb changes from pink-red to brown-yellow in 2 minutes in this test, whereas foetal HbF resists denaturation and retains its pink tint. If the Apt test for ingested maternal blood is equivocal, a spectrophotometric assay can be used to measure the colour change, with HbF 50% for foetal blood and HbA 10% for mother blood. There is no need for further examination or treatment if the LGIB is proven to be ingested maternal blood.

## Hirschsprung's illness is a contagious disease

The majority of these newborns suffer meconium passage delays that last longer than 48 hours after birth. Others have an acute blockage that is accompanied by bilious or feculent vomiting. Stool bleeding may be opportunistic, but if the condition progresses due to delayed treatment, melena or hematochezia may develop. Hirschsprung associated enterocolitis should be considered if a neonate with Hirschsprung disease has significant blood in the stool and abdominal distention, and immediate medical treatment should be initiated, including decompression of the rectum by rectal tube insertion for evacuation and

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irrigation of the rectosigmoid colon, intravenous fluid and electrolyte replacement, and appropriate antibiotics. In severe circumstances, emergent surgical intervention may be required.

## Enterocolitis necrotizing

Necrotizing Enterocolitis (NEC) is an acute sickness caused by a variety of etiological reasons, the ultimate result of which can be intestinal necrosis, which can lead to fatal outcomes [8]. If a neonate with LGIB has systemic symptoms such as apnea, respiratory failure, lethargy, poor feeding, or temperature instability, as well as abdominal signs of distention, gastric retention, vomiting, and diarrhoea, NEC should be considered as a possible cause of LGIB. Premature babies with low birth weights account for the majority of these babies. In direct roentgenograms, aberrant gas patterns and ileus are common characteristics of NEC. The hallmark finding of NEC is pneumatosis intestinalis, which shows intestinal subserosal gas storage. Medical treatment, including intravenous fluid and electrolyte replacement, as well as systemic antibiotics, should be started as soon as possible depending on the stage of NEC. Surgical intervention may be required in advanced disease stages.

## Coagulopathy Disease

Large cephalohematoma, seeping from the umbilical stump, prolonged bleeding after circumcision or blood collection, or cerebral haemorrhage in a term child are all common bleeding signs in these neonates. Coagulopathy, often known as infant hemorrhagic illness, is caused by a deficiency of vitamin K. Because vitamin K supplementation is normally done after birth, this disease should be uncommon today. Haematological disease conditions such as haemophilia and von Willebrand disease can also produce coagulopathy

in newborns as a result of LGIB. The underlying illness that results in coagulopathy should be treated in these newborns.

## Allergies to foods

In neonates and infants, this is one of the most common causes of LGIB. Food-induced enterocolitis syndrome, food-induced colitis, and allergic eosinophilic gastroenteritis are etiological factors for LGIB in these infants with food allergies. Prolonged vomiting and bloody diarrhoea are common symptoms of cow's milk allergy in babies. Protein-losing enteropathy and failure to thrive can occur in severe cases. The condition is normally self-limiting and resolves between the ages of 6 months and 18 months [9].

## Many other causes

Briskupper gastrointestinal bleeding, vascular abnormalities, gastric or duodenal ulcers, and gastrointestinal duplication cysts are some of the other reasons for LGIB in newborns. LGIB caused by any of these conditions should be treated by eliminating the underlying elements that cause blood in the stool, as previously stated [10,11].

## Conclusion

LGIB in newborns can occur suddenly, but it is more typically subtle, necessitating a thorough examination to determine the cause. LGIB can be stressful for parents, caregivers, and even doctors who work with these infants. Although most of these bleeding episodes are self-limited, in these children, a methodical approach to pinpointing the underlying source and rapid therapy, including surgical intervention, may save their lives. When dealing with newborns with LGIB, physicians should keep causal factors in mind, and a fast paediatric surgical consultation is indicated. The newborns that have LGIB should be handled as such.

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