

# Clinical update on diarrhoea



In his latest Clinical Update **Lloyd Mudiwa** looks at diarrhoea with a focus on children and babies

● All the latest news/reports on diarrhoea

## Diarrhoea, age 18 and under – Treatment

**Diarrhoea – the passing of three or more loose or liquid stools per day, or more frequently than is normal for the individual – affects almost everyone from time to time and is usually nothing to worry about.**

In adults, the symptoms of diarrhoea, which is a result of an imbalance between intestinal absorption and secretion of water and electrolytes, usually improve within two to four days. In certain circumstances, however, it may last longer.

If diarrhoea symptoms last more than 24-36 hours, for both adults and children, consult a doctor or pharmacist.

**Dr Sami Ahmed**, Consultant Paediatrician, Bon Secours Hospital, Cork, told *IMT* that in general the disease is very common in babies and children.

### Causes of diarrhoea

Diarrhoea usually occurs when fluid cannot be absorbed from bowel contents, or when extra fluid is secreted into the bowel, causing watery faeces.

Diarrhoea is usually a symptom of gastroenteritis, an infection of the bowel. Gastroenteritis may be caused by: a virus, such as norovirus or rotavirus; bacteria, such as campylobacter, *Clostridium difficile* (*C. difficile*), *Escherichia coli* (*E. coli*), salmonella and shigella – these may all cause food poisoning; and parasites, such as the *Giardia* intestinalis parasite which causes giardiasis.

When caused by contaminated food or water from a



Pic: ron summers/Getty Images

foreign country it is known as Travellers' diarrhoea.

Other short-term causes of diarrhoea include: emotional upset or anxiety; drinking too much alcohol; drinking too much coffee; and food allergies.

The condition can also be a side effect of many different medicines, including, antibiotics, antacids that contain magnesium, some medicines used in chemotherapy, non-steroidal anti-inflammatory drugs, selective serotonin reuptake inhibitors, statins (cholesterol-lowering medicines), and laxatives.

A patient information leaflet that comes with a medicine should usually state whether diarrhoea is a possible side effect.

Diarrhoea can have a number of associated symptoms depending on the cause and the

person affected. In terms of severity, patients may only have slightly watery stools and a brief upset stomach, or their stools may be very watery for a prolonged period.

Many people with diarrhoea experience stomach cramps and a frequent, urgent need to go to the toilet. Other common symptoms associated with it include nausea and vomiting, headache, and loss of appetite.

It is generally recommended to consult a doctor if a child's diarrhoea persists for more than 24-36 hours or they develop a persistent high fever. The main risk of acute diarrhoea in children is dehydration.

It is especially important that babies and small children do not become dehydrated. Even if the child vomits, they should still be given frequent

sips of fluids, preferably water. A small amount of fluid is better than none. Fruit juice and fizzy drinks should be avoided, as these can make diarrhoea worse, particularly in children.

Children are at increased risk of dehydration if they are younger than one-year-old, particularly if they are babies younger than six months. Parents should promptly seek medical advice if they develop acute diarrhoea.

Also at heightened risk are children less than two years old and born with a low birth weight, children who have had more than five episodes of diarrhoea in the previous 24 hours, and those who have vomited more than twice in the previous 24 hours. Children who have not been able to hold

down fluids, and who have suddenly stopped breastfeeding, are also at increased risk.

### Treatment

The main treatment for acute diarrhoea is oral rehydration to replace fluid and electrolytes. Loperamide hydrochloride is an antidiarrhoeal that slows down muscle movements in the gut; however, it is not suitable for children under 12 years of age. It is an opioid drug used against diarrhoea resulting from gastroenteritis or inflammatory bowel disease.

It should not be taken where the patient is under 12 years of age, has a bacterial or viral infection, and is passing blood or mucus in their stools.

Dr Ahmed said gelatin tannate is a safe treatment for children and babies with diarrhoea.

Gelatin tannate is recommended as a complementary treatment to rehydration. Adequate liquid intake and a light diet are recommended in the treatment of diarrhoea.

If a child's diarrhoea symptoms persist for more than 24-36 hours a doctor should be consulted. "This is the only medicine that we can use in babies. This medicine is very good and very safe to use in babies, children and adults," commented Dr Ahmed.

Gelatin tannate is a medical device that is used to restore the physiological functions of the intestinal walls. It is specifically formulated to control and reduce the symptoms associated with diarrhoea resulting from various causes, such as abdominal tension and frequent defecation. The product is usually effective within 12 hours.

"Gelatin tannate is very effective in reducing the duration and helping with the symptoms, within a day they

will be as good as normal," said Dr Ahmed.

Gelatin tannate contains a cross linked, stabilized gelatin; gelatin tannate, which acts mechanically by protecting inflamed intestinal mucosa, thanks to its ability to form a protective, protein-based mucocohesive film that forms a complex with the mucoproteins responsible for local inflammation and promotes their precipitation and elimination in the faeces.

The gelatin tannate of which the product is composed is not altered in the stomach and acts by forming a film which protects the intestinal mucosa, reducing the frequency and duration of diarrhoea episodes.

### Dosage

Gelatin tannate is available in capsule form for adults and as a powder for paediatric use. As a powder, the contents of one sachet are dispersed in a glass of water. It can also be added to milk or fruit juice.

For infants under two years of age consultation of a doctor or pharmacist is recommended prior to use. For children under three years: the dose is one sachet every six hours until the symptoms disappear.

In those aged three to 14 years, one or two sachets of gelatin tannate is/are administered every six hours until the symptoms disappear.

For teenagers aged 14-18 years: two sachets every six hours until the symptoms disappear.

Dr Ahmed advised continuing to administer oral rehydration solution (ORS) or ORS plus Gelatin tannate for two days after the symptoms have stopped. Left untreated the diarrhoea could run for a week, the Consultant Paediatrician said.

## Efficacy of gelatin tannate in children with acute diarrhoea shown

**A COMPARATIVE ANALYSIS** of response to oral rehydration solution (ORS) versus ORS plus gelatin tannate in two cohorts of paediatric patients with acute diarrhoea shows the efficacy of gelatin tannate.

In their study, Spanish researchers said in the 1980s the annual global mortality rate as a result of acute diarrhoea was estimated at 4.6 million people.

Since the introduction of oral rehydration therapies the rate has fallen to 2.5 million people, although this figure continues to be an estimate.

"In any event, mortality figures are still very high," J.

Esteban Carretero et al, wrote.

According to the WHO, the recommended treatment for acute diarrhoea consists of oral rehydration. Only in certain, very specific situations can some antibiotics, motility inhibitors such as loperamide, or substances that decrease water and electrolyte secretion such as racecadotril be useful. It is well known that the administration of motility-reducing drugs can favor bacterial overgrowth, the researchers said.

Some controlled studies have shown the efficacy of tannins in the treatment of acute diarrhoea, with a greater

effect than placebo, shortening the duration of the disorder with no undesirable effects. A high prescription volume of over 350,000 units of gelatin tannate, the researchers said, supports this.

The study sought to observe the response to treatment with ORS only or ORS plus gelatin tannate in two cohorts of paediatric patients with acute diarrhoea, with the primary efficacy endpoint being the number of stools at 12 hours from baseline.

Researchers included children aged three months to 12 years in the study. Only children with acute diarrhoea, more than

three liquid stools, and duration inferior to 72 hours were included. The number of stools was recorded as an absolute number, categorized as equal to or greater than three.

And less or equal to four stools over 12 hours, and as a stool decrease index (SDI).

Other clinical variables were recorded, including weight, fever, vomiting, stool characteristics, and signs of peritonitis/sepsis.

Researchers said the study results showed that baseline characteristics for the two populations included a mean age of 2.3 years in the ORS group and 2.6 years in the ORS plus gelatin tannate group. There

were 59.8 children younger than two years old, representing 54.3 per cent in the ORS and ORS plus gelatin tannate groups, respectively.

Clinical variables such as vomiting, dehydration, weight, and SDI were used to compare the two groups. The paper states: "We found a statistical significant difference between the two groups ( $p < 0.0001$ ) – SDI for the ORS group was  $-0.1894$ ; for the ORS + gelatin tannate group it was  $-0.6023$ ."

"We observed a significant decrease in the number of stools and an improvement in the consistency of stools in the ORS plus gelatin tannate

group. Other clinical variables such as vomiting, dehydration, weight, bloody stools, and peritonitis/sepsis signs showed no statistical differences between the two groups, but did show a general trend toward improvement," they said.

The SDI showed an 18 per cent decrease in the number of stools for the ORS group and 60 per cent for the ORS plus gelatin tannate group.

"The use of ORS plus gelatin tannate was associated with a greater decrease in SDI," concluded the researchers. "Gelatin tannate decreased the number of stools at 12 hours in children."