

Acute upper gastrointestinal bleeding in a child after short duration nonsteroidals

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Upper gastrointestinal (GI) bleeding of any cause in children is rare (1–2/10,000 children/year). The prescription of non-steroidal anti-inflammatories (NSAIDs) for analgesic or antipyretic purposes is one of the commoner indications. We report a child who developed self-limiting haemorrhagic gastritis after a very short course of NSAIDs, a cautionary tale. Doctors should consider the risk-benefit ratio of NSAIDs versus other drugs such as paracetamol when prescribing.

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Upper gastrointestinal (GI) bleeding of any cause in children is rare and has an estimated incidence of around 1–2/10,000 children/year.¹ Exposure to non-steroidal anti-inflammatories (NSAIDs) for analgesic or antipyretic purposes is one of the known and more common causes of this phenomenon.² In most cases, the issue is benign and self-limiting, but this may be severe and life threatening, and the risk of NSAIDs must always be weighed against the benefit.^{3,4} The presentation of upper GI bleeding varies and may be isolated haematemesis, melaena or both.¹ Indeed, bleeding may manifest as acute life-threatening haemorrhagic gastritis.^{3,5}

The indications for NSAID use in children include analgesia, anti-inflammatory and anti-pyretic effects, Kawasaki disease, Juvenile Idiopathic Arthritis and closure of a patent ductus arteriosus.⁶ NSAIDs competitively inhibit cyclooxygenase (COX), the enzyme which facilitates the conversion of arachidonic acid to inflammatory prostaglandins (PGs). The inhibition of COX-2 produces the therapeutic anti-inflammatory effect while the unwanted side effects result from inhibition of COX-1. It is thought that this enzyme produces prostaglandins integral to homeostasis and certain physiological functions.^{7,8}

CASE REPORT

We present a seven-year-old girl with no medical conditions who was given 150mg 6 hourly of ibuprofen syrup for a month to control pain and fever resulting from various conditions such as viral upper respiratory tract infections, tooth aches and gastroenteritis that happened to occur within the same month. The patient's faeces was tested for DNA/RNA of Norovirus GI + GII, Rotavirus, Adenovirus, Astrovirus, Sapovirus, *Salmonella*, *Shigella*, *Yersinia enterocolitica*, *Campylobacter*, Enteropathogenic *E. coli* (EPEC), Enterohemorrhagic *E. coli* (EHEC), Enteroinvasive *E. coli* (EIEC), Enterotoxigenic *E. coli* (ETEC), *Aeromonas*, *Yersinia enterocolitica*, Toxinogenic *Clostridium difficile*, *Cryptosporidium*, *Giardia lamblia*, *Entamoeba histolytica* by RT-PCR during her bout of gastritis. All samples were negative. A coeliac screen was also performed and this was also negative. All other blood tests including a full blood count, liver function tests and thyroid function tests were normal.

After four weeks, the parents noticed black stool which lasted for around a week and consulted their

paediatrician. The child never had any episodes of haematemesis and never complained of pain. The family's paediatrician started 10mg of esomeprazole daily and recommended that the ibuprofen be stopped completely. The melaena resolved within a few days of this advice and did not recur.

DISCUSSION

The risk of hospitalization as a result of gastrointestinal bleeding is not significantly increased following short-term use of ibuprofen in children but the possibility of haemorrhagic gastritis must be considered, and advice should be given to take these drugs with food. The risks of prolonged ibuprofen use however, requires further study. This is a cautionary tale – doctors should carefully consider risk-benefit ratio of NSAIDs versus other drugs such as paracetamol when prescribing and advise about measures to limit this possibility, such as not taking these medications on an empty stomach.

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