THE NORTHERN HOSPITAL

CONSTIPATION

"The Punishment Inflicted on Lemuel Gulliver by applying a Lilipucian fire Engine to his Posteriors for his Urinal Profanation of the Royal Pallace at Mildendo which was intended as a Frontispiece to his first Volume but omitted ".

William Hogarth, engraving and sketching on paper, December 1726. Tate Gallery, London.

"...I was alarmed at Midnight with the Cries of many hundred People at my Door; by which being suddenly awaked, I was in some kind of Terror. I heard the word Burglum repeated incessantly: several of the Emperor's Court, making their way through the Croud, intreated me to come immediately to the Palace, where her Imperial Majesty's Apartment was on fire, by the carelessness of a Maid of Honour, who fell asleep while she was reading a Romance. I got up in an instant; and Orders being given to clear the way before me, and it being likewise a Moon-shine Night, I made a shift to get to the Palace without trampling on any of the People.

I found they had already applied Ladders to the Walls of the Apartment, and were well provided with Buckets, but the Water was at some distance. These Buckets were about the size of a large Thimble, and the poor People supplied me with them as fast as they could; but the Flame was so violent that they did little good. I might easily have stifled it with my Coat, which I unfortunately left behind me for haste, and came away only in my Leathern Jerkin. The Case seemed wholly desperate and deplorable; and this magnificent

Palace would have infallibly been burnt down to the ground, if, by a Presence of Mind, unusual to me, I had not suddenly thought of an Expedient.

I had the Evening before drunk plentifully of a most delicious Wine, called Glimigrim (the Blefuscudians call it Flunec, but ours is esteemed the better sort), which is very diuretick. By the luckiest Chance in the World, I had not discharged myself of any part of it. The Heat I had contracted by coming very near the Flames, and by labouring to quench them, made the Wine begin to operate my Urine; which I voided in such a Quantity, and applied so well to the proper Places, that in three Minutes the Fire was wholly extinguished, and the rest of that noble Pile, which had cost so many Ages in erecting, preserved from Destruction.

It was now Day-light, and I returned to my House, without waiting to congratulate with the Emperor: because, although I had done a very eminent piece of Service, yet I could not tell how his Majesty might resent the manner by which I had performed it: For, by the fundamental Laws of the Realm, it is Capital in any Person, of what Quality soever, to make water within the Precincts of the Palace. But I was a little comforted by a Message from his Majesty, that he would give Orders to the Grand Justiciary for passing my Pardon in form; which, however, I could not obtain. And I was privately assured, that the Empress, conceiving the greatest Abhorrence of what I had done, removed to the most distant side of the Court, firmly resolved that those Buildings should never be repaired for her Use: and, in the presence of her chief Confidents could not forbear vowing Revenge.

Gulliver's Travels (or Travels into Several Remote Nations of the World, in Four Parts. By Lemuel Gulliver, First a Surgeon, and then a Captain of several Ships)

Jonathon Swift, 1726

In October of 1726, Jonathon Swift published his immortal "Gulliver's Travels". It created an instant sensation throughout Britain, and very quickly the world and it remains in publication to this day. "The whole impression sold in a week", John Gay wrote to Swift on 17th November, "...From the highest to the lowest it is universally read, from the Cabinet Council to the Nursery". It became quite literally overnight, "all the rage". On the 3rd of December the brilliant satirist William Hogarth, much adding to the general hilarity among the public, published a print of his version of the terrible punishment that the Lilliputian Empress had ordered upon poor Gulliver for his well meaning assistance in putting out the fire at the Royal Apartments.

It is readily appreciated, even today nearly three centuries later, the appeal that Gulliver's Travels would have had among children and the "lower sort" of early Eighteenth Century British society. However, it was also astonishingly popular among the "higher sort" of British society as well, even it was said, among the British cabinet itself where it created much sniggering and mirth. The reason for this can only be clearly understood in the context of the early Eighteenth Century. Whilst many of the "hilarious" subtleties of Swift's story have no doubt been lost to modern sensibilities, close study of the work shows that large tracts of it contained cutting satires of contemporary British society of both the general population as well as the highest levels of the government and clergy..

In Gulliver's first adventure he is washed ashore after a shipwreck and awakes to find himself taken prisoner by a race of tiny people one-twelfth the size of normal humans. These small beings are inhabitants of the neighboring and rival countries of Lilliput and Blefuscu and they are constantly at war with each other. After giving assurances of his good behaviour, he is given a residence in Lilliput and becomes a favourite of the court. Gulliver then proceeds to give his observations on the Court of Lilliput, indeed it is a thinly disguised satire of the Court of King George I and his cabinet. Hilarious to many in the cabinet…unless you happened to be one of the objects of Swift's or Hogarth's satire that is. The interminable fighting between the Lilliputians and the Blefuscudians represents the never ending conflicts of Britain and France. The source of the conflict between the Lilliputians and the Blefuscudians is a dispute over the best way to crack one's eggs, from the top or from the bottom! This is a satire on the absurdity of the religious disputes between Protestant England and Catholic France! When Gulliver tries to assist the Lilliputians (the Walpole-Hanover interest) with his misguided attempts at subduing the fire of the Royal palace by pissing on it, Hogarth represents him as having to be punished, by "taking his medicine". Here Hogarth is satirizing the British pubic at large, despite their great power in numbers (read Gulliver's enormous size), they meekly submit to the unjust punishments of the small ruling class, (Walpole and the court of George I).

The ubiquitous enema syringe would have been well recognized by all in the Eighteenth Century. Here Hogarth satirizes the medical profession, a profession in which he had not the slightest confidence. The medical enema was a treatment that was used for a truly dizzying array of medical conditions, both real and imagined, including colic, headaches, venereal disease, nervous disposition, balancing ill aligned "humors" and so on and so forth. All manner of horrendous chemical and biological concoctions were administered via this device for the "good of the patient". Many would become extremely unwell with these treatments, not uncommonly patients would die. The treatment was very often horrifically worse than the disease itself. Many a satirical artist in Swift's day thus found occasion to depict the enema syringe (and in Gulliver's case it is a truly awesome example) in the hands of "quack" doctors, (or politicians) administering unpleasant "medicines" to the general public, who would meekly and gullibly submit, for "their own good". Even Gulliver, a surgeon himself at one time, meekly submitted (however he elected not to depict this treatment on the frontispiece of his first volume of memoirs).

Fortunately medical practice has progressed since the time of Gulliver's incredible adventures, however the enema syringe nonetheless still finds a small place in modern medicine. It may prove useful in patients with true benign constipation. We must appreciate however that we should be sure of our diagnosis before we proceed, as the range of indications for its use has somewhat diminished since the Eighteenth century. Constipation is frequently wrongly diagnosed when a more serious condition exists and we will not do our trusting patients much good if our diagnosis of constipation is incorrect. Whilst patients in the 21st century are on the whole still just as trusting of the medical profession as their Eighteenth century ancestors, (Mr. Hogarth excepted), they are certainly no longer as gullible. As such a much higher standard of practice is now taken for granted, and so before prescribing the enema syringe, we must take all reasonable due care to ensure that a potentially more severe disease has not been overlooked. Just as Gulliver's well intentioned treatment of the Lilliputian fire was not appreciated by the Lilliputians, so our modern day patients will not appreciate this unpleasant intervention, should it not be appropriate.

CONSTIPATION

Introduction

Constipation is a very common complaint. It frequently presents to the ED.

Serious underlying illness is commonly misdiagnosed as constipation.

"Constipation" is a convenient label that is frequently given to patients when a diagnosis is uncertain. However a final diagnosis of constipation must remain one of exclusion of possible serious alternative diagnoses.

It is important to appreciate that constipation, should be thought of as a symptom, rather than a specific condition. The causes whilst frequently benign, also frequently indicate serious underlying pathology.

The challenge in the Emergency Department therefore will be to **risk stratify** patients that present with this complaint into "likely benign" or "possibly serious"

When "possibly serious" the exact diagnosis may not initially be clear. In these cases further investigation and observation will be required. In some cases admission may be necessary for ongoing observation and more specialized investigation.

For the approach to constipation in children see RCH Guidelines.

Pathology

Definition

There is no objective definition of constipation because of great individual variation in **normal** bowel habit.

One standard set of criteria has been suggested that includes at least 2 of the following symptoms present for at least 3 months:

- Hard stools.
- Straining.
- Sensation of incomplete evacuation, at least 25% of the time.
- Two or fewer bowel movements per week.

However because of the wide variation in "normal" bowel habit, it may be more relevant to assess a patient's complaint in the light of what is normal for them, rather than rely on a set of rigid criteria.

Causes

The more common causes of true benign constipation include:

1. Elderly age groups.
2. Drugs, in particular:
    - Any opioid drug.
    - Any drug that has significant anti-cholinergic action (eg tricyclic antidepressants).
    - Calcium channel blockers.
3. Dietary factors:
    - Low fibre diet, particularly in association with poor hydration.
4. Postoperative constipation.
5. Prolonged immobilization/ inactivity.
6. Subacute/ chronic urinary retention
7. Irritable bowel syndrome
8. Pregnancy.

Differential diagnoses:

As constipation is a symptom rather than a disease it is vital to carefully consider the possibility of serious underlying illness.

The most important of these will include:

1. **Acute mechanical bowel obstruction.**
2. Hypercalcaemia.
3. Acute spinal cord pathology.
4. Underlying GIT malignancy (causing subacute obstruction).
5. Neurodegenerative disorders:
    - Parkinson's disease.
    - MS

6. Hypothyroidism.

If pain and/ or abdominal tenderness is a prominent feature of the clinical presentation, then other more serious causes of abdominal pain will need to be strongly considered. Important examples in this regard include:

- Acute mechanical bowel obstruction.
- Hollow viscus perforation.
- Peptic ulcer disease.
- Pancreatitis.
- Diverticulitis/ appendicitis/ cholecystitis.
- Mesenteric ischaemia, particularly in the elderly with underlying cardiovascular disease or AF.

Clinical Assessment

Important points of history

1. Establish the patient's normal bowel habit and precisely how this is different to the patient's current complaint.
2. Careful drug history.
3. Nature of any abdominal pain:
    - Milder colicky pain is consistent with constipation. Peritoneal irritation, (pain with movement for example, or very severe or unrelenting) is more consistent with a more serious inflammatory pathology
4. Vomiting:
    - This is not characteristic of simple constipation. If repeated/ intractable more serious pathology is suggested.
5. Diarrhoea:
    - This does not exclude a diagnosis of constipation, (as it may be due to "overflow" incontinence).
6. Rectal Bleeding:
    - Mild mucosal tearing may be a symptom of constipation, however in older age groups without a definite source, the possibility of malignancy must always be kept in mind.

7. Recent weight loss:

    - In older age groups, recent constipation in association with recent unexplained weight loss, is a concerning symptom with respect to the possibility of an underlying GIT malignancy.

Important points of examination

Examination will primarily be aimed at ruling out the possibility of serious underlying pathology.

1. Vital signs:

    - Significantly abnormal vital signs suggest serious underlying pathology, not constipation.

2. Hydration status.

3. Evidence of possible GIT malignancy:

    - Anaemia.
    - Jaundice.
    - Wasted or cachectic appearance.
    - Hepatomegaly/ splenomegaly.

4. Signs of mechanical bowel obstruction:

    - Abdominal distension.
    - Tenderness.
    - Reduced or absent bowel sounds.

5. Signs of peritoneal irritation:

    - Guarding.
    - Rebound tenderness.

    Significant abdominal tenderness is *not* a feature of uncomplicated constipation.

6. Local perianal pathology:

    PR examination will often confirm a diagnosis of constipation by the presence of hard stool, but again this does not rule out the possibility of more serious co-existent underlying pathology.

- Painful lesions such as fissures or haemorrhoids should be excluded (as a possible cause for constipation).

- Rectal masses, (suggestive of malignancy).

7. Neurological assessment:

    - If a neurological problem, (spinal cord in particular) is suspected.

Investigations

Benign constipation in most cases does not require specific investigation.

The extent and type of investigation that is undertaken in the Emergency Department is directed at ruling out the possibility of a more serious underlying acute pathology.

They following will need to be considered:

Blood tests:

1. FBE

    - **A significantly elevated WCC is not due to constipation.**

2. CRP

    - **A significantly elevated CRP is not due to constipation.**

3. U&Es/ glucose

    - There may be secondary derangement from poor nutritional or hydration status.

4. Calcium level:

    - Hypercalcaemia

5. Lipase

    - Pancreatitis may be the cause of abdominal pain.

6. LFTs

7. Lactate:

    - This is commonly done for undiagnosed abdominal pain, however it does not provide a specific diagnosis of anything (including mesenteric ischaemia).

- It merely reflects the fact that a lactic acidosis may be present and that if the patient is acidotic then they are unwell for some reason, (and this will not be because of constipation).

8. Thyroid function tests:

    - If hypothyroidism is suspected.

Plain radiography:

Erect CXR

- For the presence of gas under the diaphragm if perforation of a hollow viscus is suspected.

AXR

- This can *assist* in a diagnosis of constipation, however it should be noted that this diagnosis cannot be *definitive*.

- A serious underlying pathology can also co-exist with, as well as be a cause of constipation.

- Dilated loops of bowel and fluid levels should always be considered as an ileus or mechanical bowel obstruction in the first instance.

CT scan:

CT scan (it need hardly be said) is not a routine test for uncomplicated constipation.

Its role in the ED setting is the exclusion of other serious alternative diagnoses or underlying causative pathology as clinical suspicion indicates.

Management

Patients who present with "constipation" to the ED, should be assessed thoroughly in order to "risk stratify" cases as:

1. Not (or unlikely to be) constipation:

    - Possible serious underlying disease or alternative diagnosis.

Or

2. Constipation:

    - Possible serious underlying cause, but not immediately life threatening.

    - Likely benign constipation.

Possible serious underlying disease or alternative diagnosis.

If the cause of a patients symptoms is uncertain then a "label" of constipation as a in itself should only be ascribed with extreme caution.

It a patient's clinical assessment and/ or investigation findings are not consistent with a benign cause of constipation, then the following will need to be considered:

1. Resuscitation as required.

2. Further investigation.

3. Surgical opinion:

    - Note that as with any medical complaint, including "constipation" in particular, a diagnosis can never be reliably made "over the phone". If clinical concern for possible serious pathology remains high, then a surgical assessment will be mandated.

4. Possible admission for ongoing investigation and observation.

Possible serious underlying cause, but not immediately life threatening.

Patients may after thorough assessment appear to have simple constipation; however a possible serious underlying pathology is still not necessarily ruled out.

A consideration of any associated symptoms and the risk profile of the patient should then be taken into consideration.

In particular, in middle or older age groups, the recent onset of unexplained and persistent constipation should always raise suspicion for a possible underlying gastrointestinal malignancy.

Risk factors include:

1. Increasing age.

2. Associated symptoms of:

    - Anorexia
    - Weight loss
    - Rectal bleeding

3. Family history of GIT malignancy.

If suspicion remains for a possible underlying malignancy, there must be a surgical review organized for further investigation.

Likely benign constipation.

Principle agents and methods used in uncomplicated constipation

For full prescribing details see latest edition of Gastrointestinal Therapeutic Guidelines.

Milder cases:

1. Dietary factors:

    - Increased fluids.
    - Increased dietary fibre.
    - **Dietician referral.**

2. Exclusion of possible aggravating drugs.

3. Bulk forming agents:

    - Ispaghula powder (Fybogel).
    - Psyllium powder (Metamucil).

4. Stool softeners:

    There is actually no good evidence that stool softeners are effective for constipation in adults and as such they are not recommended as *sole* treatment.

    They may be trialed as *additional* treatment or in specific subgroups, (eg children).

    - Docusate tablets (Coloxyl)

5. Lubricant laxatives:

    - Paraffin, (there are a number of oral preparations, (Agarol, Parachoc).
    - Glycerol suppositories.

Moderate to more severe cases:

6. Osmotic laxatives:

    Osmotic laxatives are recommended when longer term use appears necessary.

    They should be taken with fluid, preferably with fruit juice containing polyols to augment the osmotic effect.

The osmotic effect draws water into the stool with resultant softening.

Osmotic laxatives should take effect within 2 to 48 hours.

In the chronically constipated, regular small doses of osmotic laxatives will afford better symptom control than intermittent prescribing of larger doses.

Examples include:

- Lactulose syrup (Duphalac).
- Colon-LYTELY.
- Sorbitol liquid.

7. Bowel stimulants:

Stimulant laxatives are not recommended for long-term use, but may be used in the short term if other agents have failed

These drugs stimulate intestinal motility and can cause abdominal cramps.

Stimulant laxatives should take effect within 6 to 12 hours.

Examples include:

- Bisacodyl (Durolax, oral or rectal preparation).
- Senna (there is a wide range of senna preparations available).

8. Enemas:

Fast acting rectal agents include:

- Microlax:

  Each Microlax tube contains the following active ingredients: Sodium citrate 450mg, sodium lauryl sulfoacetate 45mg and Sorbitol 3.125g, glycerol, sorbic acid and purified water, to 5 mls.

- Phosphates Enemas (Fleet, Travad).

9. Bowel cleansing solutions:

Bowel cleansing solutions (normally used to clear the bowel before investigations or bowel surgery) are powders made into a solution with water and then taken by mouth; few are licensed for use in young children or for the treatment of constipation and they are **not generally recommended for use in constipation.** [2]

These preparations include:

- Sodium picosulfate/magnesium citrate.
- Polyethylene glycol.
- Magnesium citrate.
- Sodium dihydrogen phosphate dihydrate.

10. Manual disimpaction:

    - This may ultimately be required in some cases.

11. Gastroenterologist referral:

    - This may be required in severe or intractable cases for more specialized investigation.

References

1. Gastroenterology Therapeutic Guidelines, 4th ed 2006
2. Managing constipation in children. Australian Prescriber Vol. 25 No. 4 2002

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