

Improving management of constipation in an inpatient setting using a care bundle

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Abstract

Constipation is a common occurrence on geriatric in-patient wards. It can result in delirium and other complications including bowel obstruction. Over treatment with laxatives can result in iatrogenic diarrhoea, which can lead to dehydration, delirium, and the false positive labeling and unnecessary treatment of clostridium difficile carriers. This can result in increased morbidity and mortality, and a longer stay in hospital. This means that improving the assessment and treatment of constipation should improve patient outcomes and result in significant hospital cost savings.

Multidisciplinary discussion and planning resulted in the delivery of our constipation project. This aimed to encourage the early assessment and treatment of constipation of inpatients on a geriatric rehabilitation ward. The goal was to prevent significant constipation by intervening early, improving the prescription of laxatives, and titrating them when the constipation has resolved. This involved educational sessions, non-pharmacological alternatives to laxatives (optimisation of hydration, exercise, and high fibre foods), laxative prescription guidance, and twice weekly laxative ward rounds.

The profile of laxative prescription changed in keeping with our guidance. There was a reduction in overall laxative prescription by a third and the prescription of "PRN" laxatives was eliminated. This hopefully resulted in reduced morbidity for the patients and reduced length of stay. There was a cost savings on the laxative bill on average per day of the project, which when extrapolated to a 365 day year was £1226.40. This doesn't include potential savings gained from reduced complications of constipation and reduced length of stay, which are hard to accurately measure.

Problem

The problem is that patients are not actually assessed for acute constipation in hospital often enough. Constipation in elderly patients in hospital is common. The prevalence in inpatients aged over 65 years is estimated at 50%. There are many reasons for this: reduced oral intake due to illness, dehydration, delirium, dementia, immobility, and constipating drugs (such as opioid analgesics). The lack of privacy to allow bowel movement on a busy ward can also be a problem.

In elderly patients who may be confused, constipation may manifest as dehydration or nausea and may result in fecal impaction or bowel obstruction. This can result in delirium, increased length of stay in hospital, and increased morbidity and mortality. Conversely, over treatment with laxatives can result in iatrogenic diarrhoea, this can lead to dehydration, delirium, and the false positive labeling and unnecessary treatment of clostridium difficile carriers. This can likewise result in increased morbidity and mortality, and a longer stay in hospital. Regular assessment for constipation of hospital inpatients and appropriate titration of laxatives at an early stage will improve patient care.

There was also a local view that there was an over prescription of laxatives in hospital and that they tend not to be reviewed very often once prescribed. The types of laxatives prescribed are often based on clinician preference (observation) and not always in keeping with

best practice, eg two prescribed laxatives may be from the same class.

Background

A brief literature review revealed that there is no definite consensus for the treatment of constipation and laxative prescription. The National Institute for Health and Care Excellence (NICE) has produced a clinical knowledge statement on adult constipation (2013). There were some NHS trust guidelines and one policy. In general, the non-pharmacological components for preventing/treating constipation were highlighted, ie optimising patient hydration and mobility, reviewing drug charts to reduce or discontinue constipating drugs if possible, a high fibre diet, and having appropriate toileting facilities readily available.

In terms of prescribed laxatives, bulking agents (eg, Fybogel) should really be prescribed first line in ambulant elderly patients. The main side effect is crampy abdominal pain and patients with irritable bowel syndrome may not tolerate them well. A stimulant laxative (eg, Senna), or an osmotic laxative (eg, Movicol) can be used as second or third line. Stimulant laxatives should not be used long term and osmotic laxatives need a good oral fluid intake to work. Using two laxatives of the same type is generally not recommended.

We acknowledge that constipation treatment may need tailored to

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individuals, with patients preferring certain treatments. The approach to chronic constipation will need to be different, with a plan for the medium and long term. This is particularly important at the discharge point from the hospital. However, we are only looking at acute constipation in this project. A rectal examination (PR) is recommended after three days to assess for fecal loading and the potential need for an enema laxative.

Baseline measurement

We sampled the patients in a 16 bedded geriatric inpatient rehabilitation unit ward 1 at Lurgan Hospital, Northern Ireland. The patients are a mix of stroke and general elderly rehabilitation. We decided to keep the measurements simple and workable. We measured the following parameters:

1. Is the patient prescribed a laxative?
2. What category is the laxative prescribed: bulk forming, stimulant, or osmotic laxative?
3. Is there a PRN laxative prescribed and if so has it been dispensed?

The attached table shows the results of an audit of these criteria on a selected day on our ward.

See supplementary file: ds3399.docx - "Baseline measurement "

Design

We decided to introduce bi-weekly laxative ward rounds to review the patients. This involved the nursing and medical staff either physically reviewing the patients on the usual weekly multi-disciplinary team (MDT) ward round, or a separate "dry ward round". This involved the nursing notes which had a bowel chart in them and the patient's drug kardex.

The aim would be that this would prompt constipation evaluation, the timely prescription of laxatives if needed, and for laxatives to be reduced when an episode of constipation had passed.

As a result of our research into best practice, we also developed guidance concerning which laxative should be prescribed for an episode of acute constipation. After some discussion with the kitchens, we offered a first line dietary high fibre option (porridge and prune juice) as an alternative to laxatives. This won't be appropriate for everyone; some patients may not like this option and it may not be suitable in some patients with an impaired swallow. However, it was a suitable alternative to medication.

If a prescribed laxative is needed, we suggested a bulking fibre laxative should be prescribed first, with a stimulant laxative as second line and osmotic laxatives being reserved for third line. We also acknowledged that more than one laxative may need to be prescribed and that patient preference may influence the prescription.

Strategy

PDSA cycle 1:

After discussion with the multi-disciplinary team, we devised a plan to better manage constipation and laxative use on the ward. Laxative prescription guidance was devised and formal and informal educational sessions held for staff. Twice weekly laxative ward rounds were performed with medical and nursing staff. The patient was assessed for constipation and laxative prescriptions were titrated accordingly. There was some individual patient feedback that they didn't like the taste of the bulk forming laxative. A high dietary fibre option was also offered as an alternative to a prescribed laxative. There was a monthly audit into the prescription and type of laxatives.

PDSA cycle 2:

After a good initial reduction in laxative prescription and improved profile of laxatives prescribed, the audited results showed a backwards trend. Examination of the data revealed that out of hours staff covering the ward were not familiar with the project. There was also a suspicion that some apathy had set in, resulting in reduced compliance with prescribing. As a result, a second educational session was preformed. An A3 poster of the laxative prescription guidance was printed and displayed on the ward notice board at the nurses station. This happened at month three of the project. Nursing staff were asked to highlight this to out of hours doctors. An ongoing educational program is needed.

See supplementary file: ds3421.docx - "PDSA Cycles updated"

Post-measurement

Over the five months:

- Prescribed laxatives was reduced from 73% to 53% over a five month period
- "Prn" laxative prescription was eliminated
- The profile of the laxatives prescribed was changed in keeping with our laxative guidance
- Bulk forming laxatives were increased from 0% of total laxatives prescribed to 25%
- Stimulant laxatives were increased from 9% to 87%
- Osmotic laxative prescription was reduced from 90% to 12%.

See supplementary file: ds3400.docx - "Results Graphs "

Lessons and limitations

The original aim of the project was to improve the treatment of acute constipation and encourage better use of prescribed laxatives on our ward. Additional facets to the project developed as we decided to also produce some standards for overall constipation

care, including a laxative prescription guidance chart. A laxative ward round document was also created. This showed that a seemingly simple project can develop into something larger. The high fibre dietary option was facilitated by the kitchen and nursing staff without difficulty. The nursing staff seemed to embrace the project.

Time was spent on ensuring staff "buy-in" to the project, but I soon realised that no matter how many staff groups had been approached, there were always more people who we could have approached that might have made the implementation of this project easier. For example, other staff groups who covered the unit out of hours and any staff who would be rotating through the unit for a short time.

I was surprised by the size of the initial reduction in laxative prescription since it was larger than expected. There was a slight issue over the months, as prescribing habits returning to the previous ways; this was largely due to different staff covering the ward out of hours and also our own staff reverting to their previous prescribing habits. This required ongoing education of staff and a guidance chart to be placed on the wall for unfamiliar staff out of hours.

The project should be transferable to wards. On approaching the middle grade doctors on the other two wards in this hospital (similar in type our ward) there was some skepticism to the project and resistance to change. Hopefully this can be overcome with time and further engagement.

As I was actually only physically based on the ward for two months, much of the supervision of the project was from afar. There is a definite need for a continuing presence to ensure that projects keep going and counter any loss of momentum, staff changes, and apathy which can develop over time. A champion who is permanently based on the ward would be helpful, such as the ward sister.

Conclusion

This project was conceived as an attempt to improve the assessment and treatment of constipation in geriatric patients in hospital. Reduced constipation should improve patient care, prevent complications such as bowel obstruction and delirium, and also provide cost savings through reduced laxative cost and hospital length of stay. Regular assessment for constipation and titration of laxatives should also reduce the rate of iatrogenic diarrhoea.

A literature review revealed that there no uniform opinion or great evidence base for the treatment of constipation in the elderly. However, regular assessment, the use of non-pharmacological methods, and careful titration of laxatives were all common themes.

The high fibre option of porridge and prune juice was offered to patients by nursing and kitchen staff and this was generally accepted by patients. Some declined the option. This should have contributed to a reduction in overall laxative need.

Patient preference for treatment will obviously need to be considered. A guide to laxative prescription was produced, based on best guidance from the literature review. We found little patient resistance to the laxatives that we prescribed to our patients. The prescription of "PRN" laxatives should be avoided as this may negate the doctor from regularly assessing for constipation. In our observation we did notice that these were never dispensed when prescribed.

Several meetings occurred with the ward staff and relevant stake holders to brainstorm how to take the project forward. This included the ward manager, staff nurses, dietitian, speech and language therapist, and ward pharmacist.

An educational session occurred for the hospital doctors working in Lurgan. We picked a start date and proceeded with twice weekly laxative ward rounds. These involved the doctor and nurses going through all the notes, kardexes, and nursing notes, which included a bowel chart. The need for a new laxative or titration of a laxative was considered. The laxative rounds took about 10 minutes and were openly embraced by the staff. The nurses particularly seemed to appreciate it since was encouraging good care for the patients. A monthly measurement was conducted looking as our baseline criteria.

As a result, there was a reduction in the total laxatives prescribed by a third, "PRN" prescriptions were eliminated, and the type of laxative prescribed changed in keeping with our suggested protocol. Unfortunately, these initial gains faded somewhat. This was due to out of hours staff not being familiar with the protocol and ambivalence creeping in. A further education session was arranged for a staff changeover and the laxative guidance was put on a poster on the wall. The results improved again. An ambition to expand the project to other wards in the hospital was unsuccessful as yet, since the staff were ambivalent and not keen to take on the project.

As the project driver along with my consultant and another CMT trainee, I personally learned a lot from this. Our project was ambitious, although it was easier to drive it forward by doing it on a ward that both I and my consultant were based on at times. Getting other people and non medical staff involved and keeping them interested and compliant with the project was the hardest part. Apathy did creep in, and other pressures can be distracting for staff at times.

If I was to do this again, I would spend more time on the planning stage, involve all the stake holders from the start, and allow them to feel they owned the project more which would hopefully encourage compliance and innovation.

That said, I think this shows that with relatively little effort and some planning, the care of constipation, its prevention, the careful use of laxatives, and reduced iatrogenic diarrhoea can improve patient's morbidity. By ignoring this issue, the lack of a basic component of patient care can cause increased morbidity and mortality.

The project ceased after we left and rotated to a new trust, which is

a shame. Most of the other staff rotating through the unit also changed, so there was little continuity to carry the project on. However, I would be keen to start it at a new site and take what I had learned from this forward. This project was presented as a poster at the BMJ/IHI patient safety and quality improvement conference in Paris in April 2014.

References

1. J Barrett. Faecal Incontinence Guidance. BGS Guidance, 2000.
www.bgs.org.uk/index.php/nursepublications/nursecontinence/241-faecalincontinence
2. R Debray et al. Laxative policy.
<http://www.eastcheshire.nhs.uk/About-The-Trust/policies/L/Laxative%20policy.pdf>. East Cheshire Trust 2013.
3. Hartlepool Trust
http://www.hartlepool.nhs.uk/includes/documents/About_Us/Prescribing_Guidelines/Constipation%20Guidelines.pdf
4. Suffolk Hospital 2008.
<http://www.suffolkextranet.nhs.uk/LinkClick.aspx?fileticket=R6cNPcha1p4%3D&tabid=1109&mid=2350>

Declaration of interests

Nothing to declare.

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