

**Silent Constipation: A Potentially Lethal, although,
Under recognized, Under diagnosed and Under
treated entity**

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ABSTRACT

BACKGROUND AND OBJECTIVES :

Constipation is commonly prevalent and often a distressing digestive complaint, and left untreated may result in severe morbidity and/ or occasionally in mortality. Untreated or undertreated constipation can cause havoc, with avoidable catastrophic complications, including potential death. Major objective for conducting the study was to create awareness amongst clinicians for “Prevention” of potential catastrophic complications, including death, due to unrecognized and/ or untreated or undertreated Excessive Colonic Fecal Retention/Stasis.

METHODS: A retrospective cross-sectional study was done on 100 consecutive patients who had plain abdominal imaging study for any gastrointestinal symptom(s). The author (Dr. A) analyzed (i) The association between patient’s complain of constipation, with positive radiological evidence of excessive colonic fecal retention/ stasis (ECFR/S), or coprostasis on flat abdominal x ray (AXR), a) by independently reviewing the images; b.) or as reported by radiologists (ii). The treatment frequency and its appropriateness, for constipation/ coprostasis, by clinicians

RESULTS: Among the 100 patients, who were included in the study analysis:

1. There were 54 patients (54%) who did not complain of constipation.
2. Radiologists reported positively for radiological evidence of coprostasis, in 56% (95% CI, 46-65%). The p value was < 0.001 for comparison of the radiological assessment for coprostasis by Dr. A, (author) and the radiologists.

3. Although 64 (64%) patients were noted to have been treated for coprostasis, ($p=0.007$; 95 % CI, 54-73), but of those 64, (i) only 24 (24%) were probably adequately treated ($p=0.06$, CI, 17-33); (ii) 26 patients were inadequately treated; and (iii) 14 patients were probably inadequately treated.

CONCLUSIONS: The findings of this study should prompt radiologists to always report coprostasis whenever it is evident radiologically. Also heightened awareness of clinicians to assess (including independently reviewing AXR) for and address the coprostasis will improve patient care and quality of life, and may avert major morbidities, and also case fatalities in some patients.

INTRODUCTION

Constipation is a common digestive complaint, affecting approximately 20 % of the world population .¹ Constipation, significantly impacts, not only patient's quality of life, but also adds to heavy economic and healthcare burden ²⁻³. Hitherto, what is brought to the surface may be just the tip of the ice-berg, as several patients may not complain of constipation in the first place, although they may present with other gastrointestinal (G.I.) or general non-specific symptoms related to constipation. Patients with [excessive colonic fecal retention, which may include fecal impaction (FI)] or coprostasis, may present with non G.I. symptoms, related to cardiovascular or respiratory system ⁴. Symptom of constipation is defined by patients differently than by physicians. Also there is a variation amongst patients about the definition of constipation.⁵⁻⁶ Unfortunately, clinicians may formally address the symptom of constipation only in a fraction of patients.⁷ There have been no study to date which had simultaneously identified: i) The number of patients, who did not complain, of constipation, but review of flat AXR revealed coprostasis; (ii) Radiologist(s) reporting frequency for the coprostasis, on review of flat AXR.; and (iii) If the coprostasis , had been addressed and most probably adequately managed by clinicians, provided there was/were no immediate contraindications.

Constipation may not necessarily be a benign condition, and can result in complications such as gastro- esophageal reflux disease and functional dyspepsia causing chest pain, fecal impaction or fecaloma, bowel obstruction, appendicitis, volvulus, diverticulitis, bowel ischemia, hemorrhoids, rectal prolapse, rectal pain and burning, anal fissures, fistula, rectal ulcers, rectal/anal hemorrhage, over flow diarrhea, or fecal incontinence, and bowel perforation or rupture, increased propensity for colonic malignancy, or death. ⁸⁻¹⁹

Constipation, may either be primary or secondary to myriad factors conducive to cause

constipation. These include behavioral, lifestyle, diet, drugs, metabolic, endocrine, psychiatric, and several other disorders including previous laparotomy (with associated peritoneal adhesions).^{9-11, 17-20} When such individuals present to a clinician's office, emergency room (ER), or get hospitalized, and do have any G.I. symptoms, then thorough assessment for constipation is essential. Constipation in the elderly can present with failure to thrive or delirium.¹⁰ Constipation, left under treated or never treated, may initially cause no or fewer G.I. symptoms, but in the long run, may not only impair quality of life, but lead to unnecessary extensive cardiac (to rule out ischemia); other thoracic or G.I. workup, and may cause high morbidity, requiring unnecessary and *avoidable* laparotomies, and may sometimes lead to case fatalities as well.^{2,8, 14-19} There have been no studies, which has simultaneously identified that constipation, including "silent" constipation is not only under recognized, but many a time, also an under or never treated entity.

METHODS

A retrospective study was conducted to identify: 1. The number of patients who "Did not" complain of constipation, and correlate this finding with radiological evidence of excess colonic fecal retention/stasis coprostasis in the rectum (per review by radiologists and formally reported by them) and/or independently by a clinician, Dr. A (author); 2. The number of patients, out of the entire study population, in whom coprostasis was reported by the radiologists; 3. The subset of patients, out of the entire study population, in whom clinicians undertook necessary and appropriate treatment intervention(s), provided there were no contraindications; refractory to the initial therapeutic intervention(s) were re-evaluated.

This study was approved by University of Maryland Medical Center Institutional Review Board and patient consent was not required.

Participants

The Inclusion criteria

1. Patients above the age of 18 years, who presented to the emergency room, with G.I. symptom (s) or had complained of G.I. symptom(s), during their course of hospitalization; and able to verbalize symptoms. 2. Definitively plain abdominal x-ray imaging studies were done. 3. Excessive colonic fecal retention score of ≥ 7 , on independent review of AXR by Dr. A.

The Exclusion Criteria

1. Obtunded patients. 2. Patients who were unable to provide history. 3. Patient (s) who signed out “against medical advice”, as treatment adequacy could not be gauged. 4. Poor image quality of AXR.

The medical records of consecutive patients of an urban community hospital who definitely did undergo flat abdominal imaging study (AXR) for complaint(s) of any G.I symptoms, either in the emergency room (ER) or during the course of hospitalization, were reviewed. As the first step, independent review of flat AXR, of these patients by Dr. A was done, to include only those patients with positive radiological evidence of coprostasis, with a score greater than 7.^{1,21-}
²² Dr. A had completed formal training in Palliative Medicine; and had independently been reviewing plain x ray images of the abdomen for the assessment of colonic stool for over 15 years. Dr. A. was neither aware of the patient’s complaint of constipation in the chart, nor of the radiologist report of the flat AXR during the initial independent radiological review. Of these patients, charts of 100 of those who met the inclusion criteria were then reviewed thoroughly in detail, including, the radiology report of the flat AXR.

The presence of stool in ascending, transverse, descending colon, and recto-sigmoid colonic portion constitutes the four quadrants of colon for the purpose of scoring colonic stool. The

scoring system for colonic stool, for each colonic quadrant is as follows: 0= No stool; 1= stool occupying < 50% of the lumen; 2= stool occupying > 50% of the lumen; and 3= stool completely occupying the colonic lumen. The total colonic stool score, henceforth ranges from 0-12.²¹⁻²² Scores, of 8 or greater (out of 12), suggest severe constipation.²¹ The medical records were then reviewed in more detail to extract data on rest of all the clinical variables (Table 1-3). A detailed review of patients' data collection and analysis also included management of constipation, provided patient(s) had no contraindications.

Statistical Analysis

Data analysis was performed for the 100 consecutive patients who met the inclusion criteria, using the Graph pad. Confidence interval (CI) by modified Wald method.; the two-tail p-value by sign test and by using the 2x 2 contingency table for the Fisher's exact test; and the Cohen kappa formula for the inter-rater reliability.

RESULTS

Among the 100 patients, who were included in the study analysis:

1. There were 54 patients (54%) did not complaint of constipation;
2. Of those 100 patients, who had colonic stool score ≥ 7 , as per independent review of AXR, by Dr. A, radiologists reported positive for coprostasis, in 56% of AXR reviewed by them (95% CI =46-65%). The two tail-p-value of < 0.001 was statistically significant [SS]; for comparison of the radiological assessment for coprostasis, by Dr. A and the radiologists. Cohen's Kappa-Inter-rater reliability= 0.00 (with value < 0.4 indicating poor agreement between radiologists' and Dr. A.

3. Although, 64 patients were treated for coprostasis, (64%, the p-value: 0.007 [NSS], CI =54- 73%), but, (i) only 24 of the treated patients were noted to have been “probably adequately” treated. (24%, with the p-value 0.06. [NSS]; 95% CI= 95% CI = 17-33 %); (ii) 26 patients were “inadequately” treated; and (iii) 14 patients were “probably inadequately” treated.

DISCUSSION

In this retrospective study, over 50 patients (54%) did not complaint of constipation, even though majority of the study population were at a very high risk for this condition. These included comorbid conditions, and/or taking drugs causing constipation which include anti-hypertensives, antipsychotics, iron/calcium supplements, prescription opiates, including methadone, and street opiate dependency (to name some of them). The past history of laparotomy, for any reason, (including stab wounds, gunshot wound) may also be a contributing factor for constipation, by way of peritoneal adhesions, which may subsequently cause bowel obstruction. Homelessness, by itself, for obvious reason, maybe an under recognized independent social factor for causing constipation.

The results demonstrates that patients’ perception of constipation, has inter -patient variability (known even in several previous studies. ⁴⁻⁶ The difference between the radiologists reporting positively for coprostasis and Dr. A’s assessment positively for coprostasis on plain AXR, may be mainly due to the fact, that radiologists either positively report or rule out findings, requiring more immediate attention, and reporting coprostasis, although evident to them may sometimes be considered, as either “irrelevant” to the case, or an “insignificant” finding. Although, unfortunately, there are no universally set values for the “normal” amount of stool in the colon

acceptably, the entire colon and rectum should not be filled with stool, normally .²¹

It is evident from the study, that a plain AXR, may possibly allow for a more rapid diagnosis of coprostasis, in all settings, ambulatory care facilities, ER, or inpatients, or skilled nursing facilities, or other long term care health facilities.²³⁻²⁶ This could possibly persuade clinicians, to promptly administer, high and frequently dosed short term treatments [once contraindication(s) is/are ruled out as the case maybe] for the coprostasis, which in turn may either prevent hospitalization or shorten the length of hospital stay. High risk patients for constipation, also includes cognitively impaired patients (although not included in the study). These group of patients may immensely benefit from objectively evaluating for constipation, by way of plain AXR, and also following up on the response to treatment, with repeat imaging studies after aggressive short term treatment. Patients, not responding initially to high and frequently dosed short term therapy may be due to several factors including phleboliths due to chronically retained colonic stool over a very long period. This study refutes other authors disagreement about obtaining plain AXR.²⁷ The weakness of the study is that only one physician reviewed the plain AXRs.

In patients with history of constipation, practice guidelines have recommended against routine blood tests, Xray studies, CT imaging or endoscopy, in the absence of alarm symptoms.^{10,28-29} These alarm symptoms include hematochezia, weight loss of more than 10 pounds, family history of colon cancer, or inflammatory bowel disease, anemia, change in bowel habits, or blood in stool. Do clinicians need to wait for the development of “alarm symptoms”, before obtaining AXR studies ? What about preventing the catastrophic complication(s), of bowel rupture, intestinal obstruction, ischemia, etc?! It is evident that when patients do not complain of constipation, part of these guidelines are not applicable, as subjectively, patients are unaware

of coprostasis. Plain AXR maybe needed, even in the absence of constipation complaint. The only way to avert complications, related to coprostasis, is to 1. keep a low threshold for ordering plain AXRs, in high risk patients, when these group of patients present with GI symptoms, or other (probably) constipation equivalent symptoms such as chest pain, recurrent urinary symptoms, failure to thrive, delirium; or 2. Routinely order plain AXRs in very high risk patients every 6-12 months. It is not uncommon for patients to have no symptoms of constipation, but yet have evidence of coprostasis on radiologic studies, as was seen in this study. These patients may subsequently progress to bowel obstruction or perforation ^{14-15, 18,19} In some, this maybe life threatening and/or fatal as well. ^{14,15,18,19} One patient (on long term methadone maintenance 90 mg per oral daily in this study group had colonic rupture in 3 areas simultaneously: 9 cm, 5 cm, and 3 cm), following a *subjectively* very *brief* period of constipation. In hindsight, the stercoral rupture of her colon could not have occurred due to a brief period of constipation, but would have been as a consequence to chronic coprostasis hitherto unknown to the patient. ¹⁹

The patients in the study group were categorized into the 3 treatment groups for reasons alluded to in Appendix Table 1. When patients present either with constipation, or have radiological evidence of coprostasis, short term aggressive management of constipation is essential, provided patients' have no contraindication to the therapy:- *visa vis* combination (examples of some of the over the counter medications**) of stimulant plus osmotic laxative (Lax) along with a stool softener (SS). ^{20,30-38}

Plus

Bisacodyl 5-30 mg /day po plus per rectal (PR), in single/divided doses (Note where FI is likely either clinically by a PR exam and/or evident on plain AXR, rectal suppository with a stimulant

laxative is essential, and PR enemas maybe needed as well. Impacted stools in the rectum should be removed by fragmentation with either rectal suppositories and/or enemas before titrating osmotic laxatives. Oral stimulants plus stool softeners alone may not be adequate or may be dangerous as the bulking agents may cause bowel obstruction/rupture if the fecal impaction doesn't resolve. ^{31,36-38}

Or

Lactulose 20 -30 mg/30 ml, 15-30 ml, Q 4-8 h

Plus

Stool softeners

For example

Sodium docusate 100-200 mg every 4-6 hours, until patient has 2-4 large bowel movements.

The short term high dose regimen of Lax/SS should be followed by appropriate doses of scheduled Lax/SS. Acute and long term therapy (if indicated) for constipation should be tailored to each individual patient's condition/ comorbid conditions, etc ³⁰⁻³⁶ .

Patients may subjectively feel, that they had truly passed large amount of stool, but it may need to be evident to the nursing staff member(s). Since inter-patient, as well as inter-observer (nurse) variability occurs, for evidence of stool passage as small/large or adequate/inadequate bowel movements, it is incumbent to get follow up plain AXR, to look for the coprostasis resolution (***) . This would also help the clinician to assess patient, either by giving few further doses of combination Lax + SS, plus rectal enema if indicated, or repeating enema (s) as needed.

(*Note: The author has not discussed newer and/almost all prescription Lax/SS and details on switching laxatives when long term treatment is required, and not discussed non pharmacological therapy including biofeedback therapy, diet modification, exercise therapy, etc, as and where applicable).

(***) Anecdotally, an elderly woman was admitted with intestinal obstruction, and dilated mega sigmoid colon with fecal impaction. The general surgeon and a gastroenterologist had manually dis-impacted one *bucketful* of hard feces over a 3 hour period, in the operating room (OR) just from the sigmoid colon and rectum. Follow up plain AXR study done in the OR revealed, that the patient still had *more than 50%* of retained stool, left behind in the *sigmoid colon*. Few more attempts to remove the remaining hard feces with fecoliths, were unsuccessful. To avoid, perforation(s) of the colon, the disimpaction attempts were aborted, and surgeon ended up performing a diverting colostomy. The patient was lost to follow up after discharge. What is learned from this case is that, the colon can unexpectedly hold, very excessive amounts of stool, which may not be evident, just by merely looking at the amount of passage of feces per rectum, but only a repeat AXR may reveal about the adequacy of the bowel emptying.

Since constipation is a symptom, and finding coprostasis is a sign, and as evident in the study, that, although over 50% patients may not complain of constipation, the underlying causative factor has to be addressed, as and when evident, and where feasible. Patients with refractory constipation, as maybe evident with follow up plain AXR, and/or subsequent knowledge of adequacy of bowel movement(s) passage, with repeated therapy may need referral to a gastroenterologist ± further workup, and/or management. ³⁷

Of those patients, included in the study, who had GI bleed, majority were discharged from the ER. Constipation/ coprostasis in two patients with acute GI bleed who were hospitalized was never addressed. When acute therapy with combination stool softeners/laxatives, was contraindicated, then possibly these patients could have been treated prior to discharge or after discharge from the hospital with clear instructions to take stool softeners/ laxatives combination,

once the period of contraindication to administration of laxative/SS phase is over.

None of those in-patients, who had been treated for constipation/ coprostasis, were followed up, during the same hospitalization period, in order to evaluate and exclude refractory constipation.

In summary, constipation ranks among the top five most common physician diagnoses for G.I. disorders among outpatient visits, and the accompanying use of healthcare resources is enormous. Some of the patients may suffer from “Silent Constipation”, i.e. they may be unaware that they are slowly developing coprostasis, and may present with other constipation associated symptoms and/or its complications, some or most of which may be catastrophic; and/or fatal in few cases.

The hypothesis “Silent Constipation” is an under recognized entity, was corroborated through this study. It has become obvious from the study that the number of patients who present to a clinician with “constipation” as a primary symptom or amongst other symptoms, does indeed represent the tip of the iceberg.

When patients present to the clinician’s office, and/or emergency room with symptoms directly/indirectly related to coprostasis, including constipation equivalent symptoms, or its associated complications, rather than with one or the only presenting feature (s) being “constipation”, further investigation(s) is/are warranted, including a plain abdominal xray. Clinicians would need to proactively pursue the diagnosis of coprostasis even in the absence of complain of “constipation” symptom.

CONCLUSIONS

Untreated or undertreated constipation/coprostasis may cause havoc. The findings of this study should prompt clinicians to independently review plain AXRs in order to identify coprostasis . Heightened awareness of clinicians to appropriately address the coprostasis will improve patient

care and quality of life, and may avert case fatalities in several cases. Also, the findings of this study should prompt radiologists to increase reporting of coprostasis in the final impression” section” as well in all cases when evident on imaging studies.

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Author Contributions: Dr. Esphani had full access to all the data in the study and takes responsibility for the integrity of the data.

Study Concept and design, Acquisition, analysis, or interpretation of data: Esphani

Drafting of the manuscript: Esphani

Administrative support and Study Supervision: Robert T. Chow, MD

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Learning Objectives

Questions: When patients have radiological evidence of coprostasis: (i) Do patients always complain of constipation? (ii) Do radiologists and clinicians, always report and appropriately address it, respectively?

Findings: In this observational study, it was noted that (i) patients with constipation complaint may represent the tip of the iceberg; (ii) Radiologists may consider reporting on coprostasis, as unimportant; (iii) Majority of clinicians, under diagnose and undertreat constipation/coprostasis.

Meaning:

1. Redefine constipation, and familiarize, with terms, "Silent" constipation and/or coprostasis, which may possibly cause havoc to patient(s) with avoidable catastrophic complications, and be potentially lethal occasionally, if left untreated or undertreated.
2. Radiologists ought not to consider reporting on coprostasis as trivial/unimportant and always report coprostasis, when evident on imaging study review, not only in the "findings" section, but also in the "Final Impression" section of the report.
3. Clinicians ought to consider constipation/coprostasis in differential diagnosis for any gastrointestinal symptoms (or constipation equivalent symptoms), and appropriately address it, by way of
 - (i) Ordering plain abdominal xray (AXR) study, and, always independently, review

AXR.

(ii) Appropriately address and always adequately manage coprostasis. Therapy has to be always tailored to every patient's needs.

(iii) Educate patients about constipation/ "silent" constipation, with potential catastrophic complications if undertreated, and to be strictly adherent to the recommended therapy.

(iv) Educate Trainee Residents and / or Medical students (where applicable) , and Nursing staff about constipation, including " silent constipation", its appropriate management " and for them to be proactive as well in educating patients, about constipation, and to be therapy adherent

4. Incorporate strictly in Medical Schools/Residency Training Programmes' curriculum to Educate Medical students/ Re-educate Trainee Residents, in all relevant specialties respectively on recognizing, and adequately managing constipation, including, "Silent" constipation in order to prevent potential catastrophic complications, and /or death.

5. Educate patients that undertreated constipation/ "silent" constipation, may potentially cause catastrophic complications , and for strict recommended therapy adherence.

6. . Educate/ Re- Educate Trainee Residents (where applicable)/ Nursing staff about constipation/ " silent constipation, its appropriate management " and for them to be proactive as well in educating patients, on constipation/ therapy adherence.

7. Clinical Practice Guidelines have to change, across not only the entire Gastrointestinal speciality, but also other relevant medical specialities/healthcare settings all over the globe to include ordering plain abdominal xrays as a very cost effective approach to address constipation/silent constipation, in order to prevent potential catastrophic complications, and /or death, as it is needless to state that clinicians cannot attempt to cure the “dead.”

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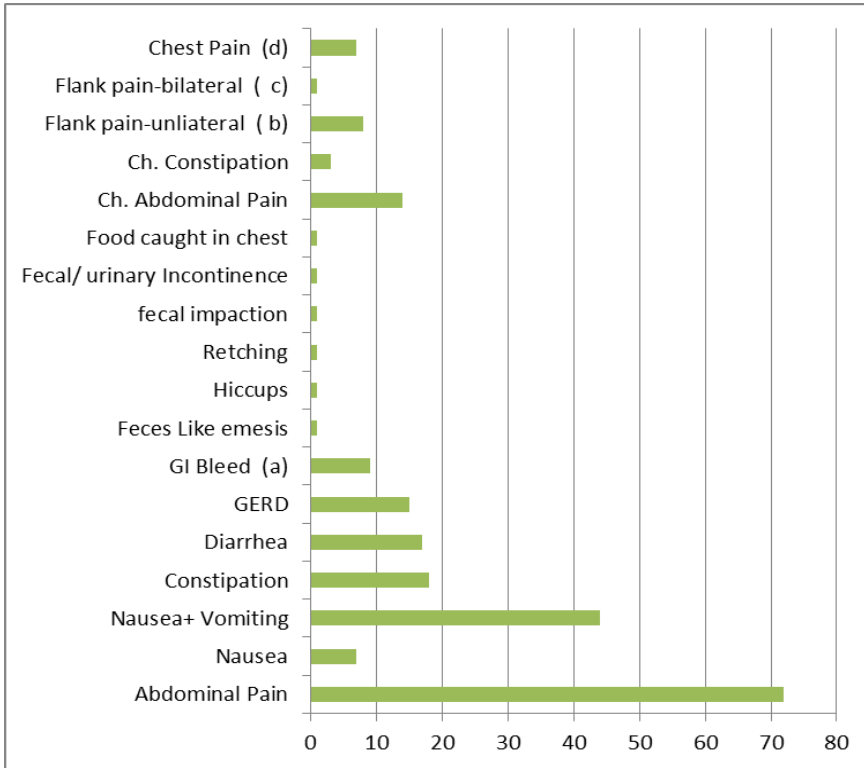
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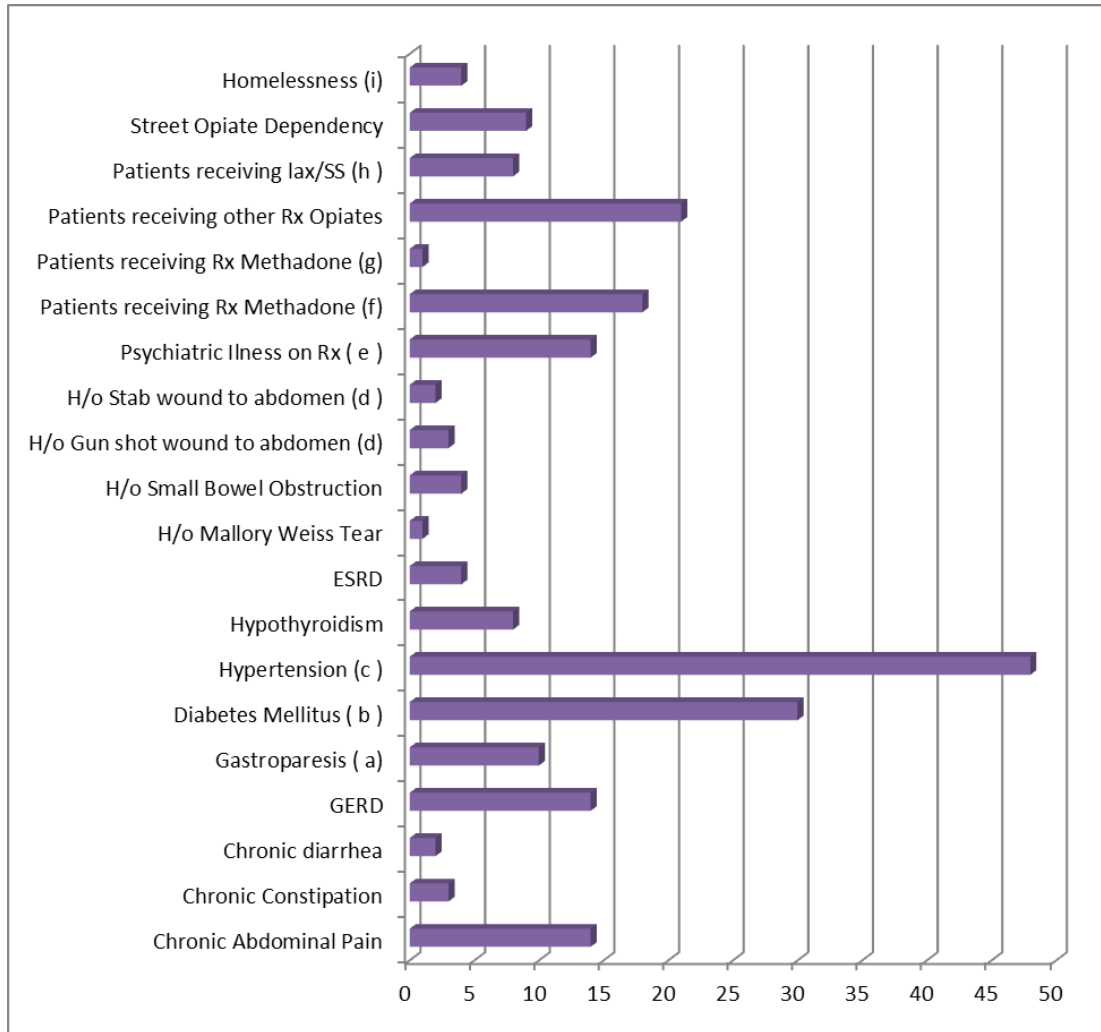
Table 1 summarizes the presenting complaints of those 100 patients included in the study

(Note that some symptoms overlap).



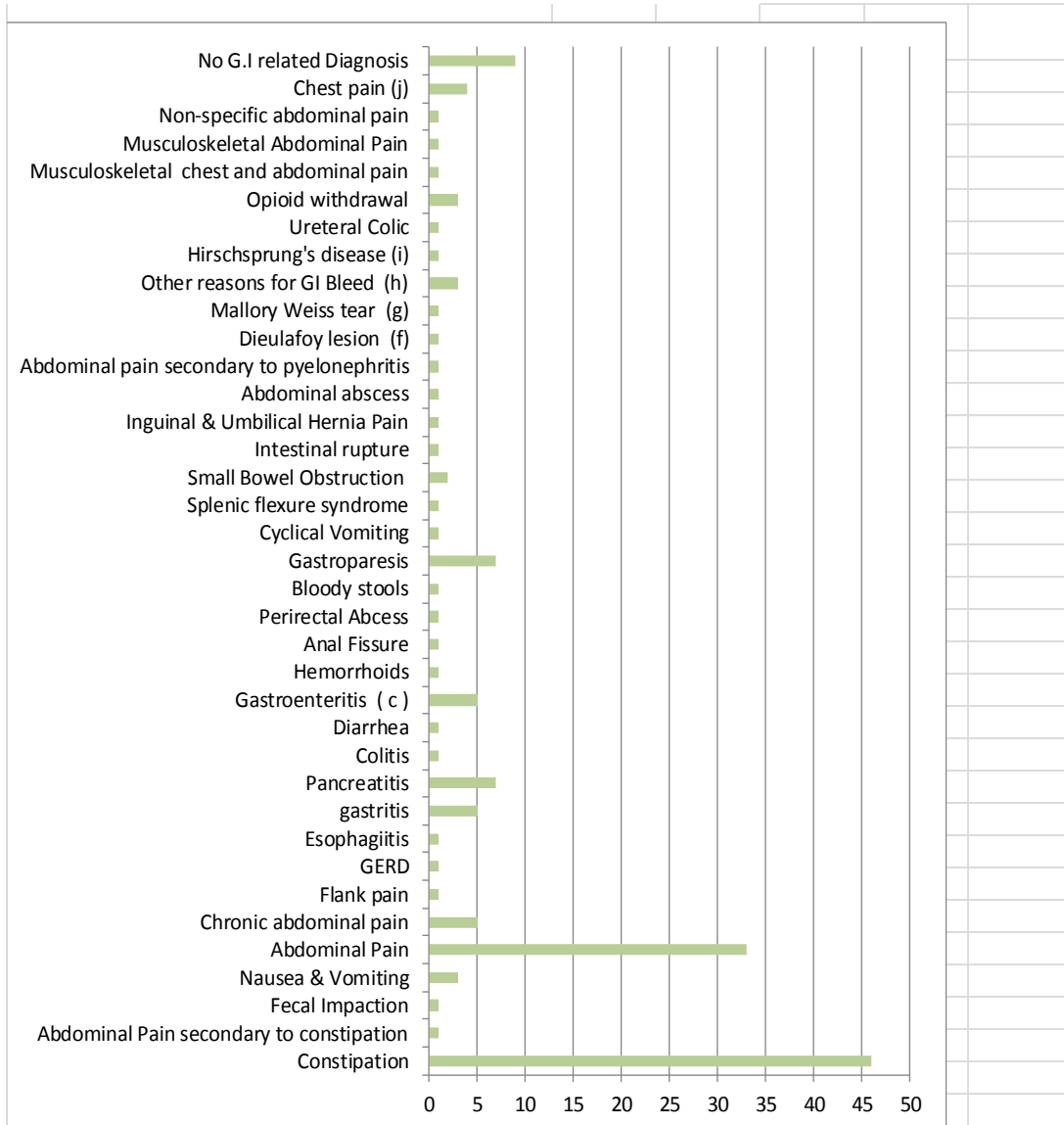
- a. 4 patients presented with Upper G.I Bleed (UGIB), of whom 2 were d/c from ER.
5 patients presented with Lower G.I Bleed (LGIB), all of whom were d/c from ER
2 more patients developed UGIB ,while inpatient; # 1 patient had Hx of recent UGIB,
These patients could have been treated with SS/laxatives during or after discharge, even if
precluded treatment during hospital stay for those # 4 patients with acute GI Bleed
- b. Only # 2 patients had Hx urolithiasis
- c. No Hx urolithiasis
- d. 1 patient had burning chest and abdominal pain;
6 out of 7 patients with cp were d/c from ER.

Table 2: Clinical Variables of the Study Population



a.	# 5 patients were on Methadone	
b.	# 4 on constipation causing hypoglycemic agents	
c.	# 24 on constipation causing anti hypertensives	
d.	s/p Laparotomy Hx	
e.	# 27 on constipation causing antipsychotics/antidepressants	
f.	For opioid dependency 65-125 mg/day	
g.	For chronic pain 15 mg/day	
h.	Laxatives &/ or stool softeners on an outpatient basis	
i.	probably an unrecognized factor for constipation	
o	# 14 were on Miscellaneous constipation causing drugs	

Table 3: Discharge diagnosis of the Study Population (some may overlap)



a.	# 31 of which had visit/post admission c/o constipation & d/c diagnosis of constipation					
b.	# 5 acute; # 2 chronic					
c.	# 4 viral; # 1 acute					
d.	#1 pt required exp. Lap'tomy with adhesiolysis)					
e.	3 areas of intestinal rupture simulataneously 9cm, 5 cm, 3 cm)					
f.	causing GI bleed					
g.	causing GI bleed	(pt. had chronic abd. Painfor 1 year)				
h.	due to gastric ulcer/ non steron steroidal anti inflammatory drugs					
i.	pt had bowel movements every1-3 weeks; rad report negative for fecal impaction/excessive colonic fecal retention					
j.	all were d/c from ER					

Table: 4

	RP ⁺	RN ⁻	Total
CCP ⁺⁺	22	24	46
CCN ⁻⁻	34	20	54
Total	56	44	100

CCP ⁺⁺	Constipation complaint positive
CCN ⁻⁻	Constipation Complaint Negative
RP ⁺	Radiology report positive for ECFR/S± FI
RN ⁻	Radiology Report negative for ECFR/S± FI

Table 4 : Summarizes the association between patients complaint of constipation, and the radiologists report for excess colonic fecal retention (positive report).

No significant correlation was found between the report and the clinical complaint of constipation. Of the total number of patients: 54 (54%), who did not complain of constipation, radiologists, reported positive in 34 of these patients (63%), and radiologists report was negative in 20 of these patients (37%); 22 patients had positive constipation history, and 24 patients had negative constipation history.

Dr A's review of AXR had showed evidence of ECFR/S ± FI, with score of ≥7, in all 100 patients

P value by Fisher's for 2x2 analyzing negative constipation history and radiologist report of evidence of ECFR/S ± FI, with p value 0.16 (NSS), . CI=95% CI for 34/54 (RP/CCN) =50-75%

Appendix Table 1

Treatment Adequacy Categories for patients with c/o Constipation of Excessive Colonic Fecal Retention, which may include Fecal Impaction

Patients Inadequately Treated while on Methadone

1	Magnesium Citrate (MGC) 300 ml po x 1, Senna 1 po qd # 30
2	MGC 300 ml po x 1, Senna 1 po qd # 30
3	Docusate 100 mg po x 1
4	MGC 300 ml po x 1, Bisacodyl 20 mg po x 1
5	Docusate 100 mg po x 1
6	Enema P/R prn x 2
7	Lactulose 30 ml po prn # 300 ml
8	MGC 300 ml po x 1, Fleet Enema P/R x 1, Senna 1 po qd # 30
9	MGC 300 ml po x 1, Docusate 100 mg po bid # 6
10	Lactulose 15 ml po bid prn # 100 ml
11	Bisacodyl 10 mg po x 1, Bisacodyl Suppository (supp) 1, Colace 100 mg po x 3
12	Lactulose 30 ml po x 1, then (Lactulose 15ml po qd + Methylnaltrexone 15 mg Sub Q qd) x 8 , then B
13	Lactulose 30 ml po x 1
14	Polyethylene glycol 3350 (PEG) 17 gm po qd # 527 gm
15	Lactulose 15 ml po q 4 h prn x 2, Bisacodyl Supp P/R x1, Senna 2 po qd x 1, Docusate 100 mg po bid

TOTAL 15
 Note: PRN for CCN , while on methadone
 Daily methadone dose range for 14 patients was from 65 mg to 130 mg for detoxification.
 One patient was receiving 15 mg qd for chronic pain.

Patients Inadequately Treated while on Non-Methadone Opiates

1	Docusate 100 mg bid prn # 12
2	MGC 300 ml po x 1
3	MGC 300 ml po x 1
4	Lactulose 30 ml po bid x 4, Bisacodyl Supp P/R x 1, Docusate 100 mg po bid x 4
5	PEG 17 gm po qd # 30, Enema P/R x 1
6	Senna 2 po qd, Docusate 100 mg po bid
7	PEG 17 gm po x 1, Senna 2 qd x 3, Docusate 200 mg qd x 3

TOTAL 8

Patients Inadequately treated while on no opiates

1	Colace 100 mg po bid prn # 30 days
2	MGC 300 ml po prn
3	Lactulose 15 cc po bid prn #10 days

Total 3

Patient (s) Probably Inadequately Treated while on Methadone

None

Total 0

Patients Probably Inadequately Treated while on Non- Methadone Opiates

1	Bisacodyl 20 mg po x 1, Senna 1 po bid, Docusate 100 mg po bid
2	Bisacodyl 10 mg P/R x 1, Bisacodyl 5 mg po x 1, Lactulose 30 cc po x 1, PEG 17 gm po qd # 30
3	Fleet Enema P/R x 1
4	Bisacodyl 10 mg P/R x 1, Lactulose 30 cc po x 1, Senna 2 po bid x3, Docusate 100mg po bid
5	MGC 300 ML po x 1, Lactulose 30 cc po x 1
6	Lactulose 30 cc po x 1, then 15 cc po bid prn # 200 ml
7	MGC 300 ml po x 1, Lactulose 30 cc po x1, Bisacodyl suppository x 1, Fleet enema x 1, then PEG 17 gm po qd # 30

Total 7

Patients Probably Inadequately Treated while on No Opiates

1	MGC 300 ml po x 1 prn, Colace 100 mg po bid prn # 60
2	MGC 300 ml po qd x 2, Bisacodyl 10 mg po qd x 2, Senna 2 qd x 6, Docusate 100 mg po bid x 6
3	Soap suds enema P/R x 1
4	Docusate 100 mg po bid # 30
5	Senna po 2 bid, Docusate 100mg po bid
6	Lactulose 30 ml po x 1, then 15ml po bid prn # 300 ml
7	PEG 17 gm po x 1, Senna 2 po qd x 3, Colace 200 mg po qd x 3

TOTAL 7

Patients Probably Adequately treated while on Methadone ***

1	Senna 2 po qd, Docusate 100 mg po bid, Lactulose 15 ml po bid prn
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TOTAL 1
 ***(Patient s/p Transverse & Descending Colectomy for Colonic rupture x 3 areas) Receives 90 mg po qd

Patients Probably Adequately treated while on Non Methadone Opiates

A73	Bisacodyl 10 mg po x1, Bisacodyl Supp P/R x 1, PEG 17 gm po qd # 30
A42	MGC 300 ml po x 1, PEG 17 gm po qd # 527 gm, Docusate 100 mg po bid # 60
A19	MGC 300 ml po x 1, Lactulose 60 ml po x 1, then Lactulose 30 ml po qd # 16 oz

TOTAL 3

Patients Probably Adequately Treated while on No Opiates

1	Senna 2 po q d x 2 da, Docusate 100 mg po bid x 3, then Senna 2 po qd
2	MGC 300 ml po x 1, Fleet enema P/R x 1
3	MGC 300 ml po x 1, Docusate 100 mg po x 1, Lactulose 30 ml po qd # 16 oz
4	Lactulose 45 ml po x 1, Enema P/R x1
5	PEG 17 gm po qd # 527 gm
6	PEG 17 gm po qd # 255 gm
7	MGC 300 ml po x 1, PEG 17 gm po qd # 230 d
8	MGC 150 ml po bid prn # 600 ml
9	Lactulose 30 ml po qd x 5d, then prn # 16 oz
10	PEG 17 gm po qd # 527 gm
11	PEG 4000 ml po x 2, Sorbitol 30 ml po qd x 4, PEG 17 gm po # 527 gm
12	Fleet enema P/R x 1, then Senna 1 po qd 1
13	MGC 300 ml po x 1, Fleet enema P/R x 1, then Lactulose 30 ml po qd # 16 oz
14	PEG 17 gm po qd # 527 gm
15	Lactulose 30 ml po bid, Senna 2 po bid, Colace 100mg po bid
16	Fleet enema P/R x 2, Soapsuds enema P/R x 1
17	Lactulose 30 ml po x 1, then Lactulose 15 ml po bid prn # 300 ml
18	Lactulose 30 ml po x 1, Docusate 100 mg po bid
19	Bisacodyl SUPP 5 mg P/R 2 qd prn # 10
20	Senna 2 po qd, Docusate 200 mg po bid

Total 20

- Patients have been placed in these treatment categories either because of appropriate doses , or inap-
 ordered "prn" order, or lower doses of SS/Lax prescribed compared to current home regimen for opiate
 constipation (OIC), although AXR shows evidence of ECFR + F1 ; or inadequate SS/Lax regimen based on
 or opiate (including methadone); or not being prescribed on going SS/Lax regimen, although patients are
 daily opiates, or have chronic constipation, and/ or have factor(s) conducive for causing constipation.
 Treatment approach has to be tailored addressing all comorbid conditions.

Note: What's the point in prescribing " prn " meds for patients, who do not c/o constipation, but AXR and
CCP++ Constipation complaint positive
CCN-- Constipation Complaint Negative
RP+ Radiology report Positive for ECFR + F1
RR- Radiology Report Negative for ECFR + F1

