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Constipation

David A Smith MD, FAAFP, CMD

President, Geriatric Consultants of Central Texas, PA

iCare Webcast

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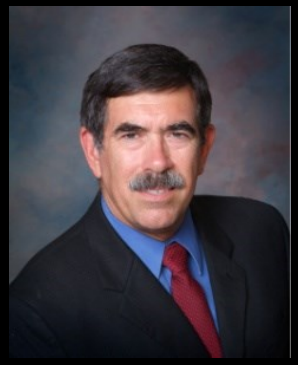

Disclosure

Dr. Smith discloses financial relationships potentially relevant to the following subject matter with Sucampo/Amitiza, Wyeth/Relistor.

Chronic Constipation: Definition

PATIENTS (symptom based)

- straining at stool
- hard stools
- inability to have laxation
- feeling of incomplete evacuation

PHYSICIANS (frequency based)

- 3 or fewer laxations/week

  (unreliable)
- Rome II Criteria

ROME II

At least 12 weeks (not necessarily consecutive) in preceding 12 months of 2 or more of the following :

1) straining at stool with > 1 of 4 laxations
2) lumpy or hard stools
3) sensation of incomplete laxation in > 1 of 4 laxations
4) sensation of anorectal obstruction in > 1 of 4 laxations
5) manual maneuvers to facilitate evacuation with > 1 of 4 laxations
6) < 3 laxations /week

Loose stools are not present and criteria not met for Irritable Bowel Syndrome

Risk Factors

- female (2 or 3 to 1 compared to male)
- elderly (15 to 30% of elderly)
- nursing facility (50-75% use laxative daily)
- lower socioeconomic class
- non caucasian
- lower educational level
- sedentary lifestyle
- constipating medications

Classification of Constipation

- normal transit constipation
- defecatory disorders
- slow transit constipation
- combined defecatory and slow transit

What's in there?

- food residue
  - CHO resistant to digestion
  - bacteria ferment to give gas and short chain FFA
- water
- electrolytes
- bacteria

"Support bacteria, it's the only culture some people have."

- Larry the Cable Guy

Colonic Motility

- lower amplitude segmented contractions
  - mix colon contents, allow contact with mucosa
- high amplitude propulsive contractions
  - move fecal bolus toward anus

(yet colon must store feces between defecations and slow transit long enough to allow needed resorption of electrolytes and water.)

Innervation

- defecation-voluntary nervous system
- colonic motility-involuntary nervous system
  - myenteric plexus
  - substance P (excitatory), vasoactive intestinal polypeptide, nitric oxide (inhibitory)
  - interstitial cells of Cajal (interstitial pacemaker cells)
  - prone to reversible and irreversible damage by cathartics, diabetes, other causes

Voluntary inhibition of defecation (stool withholding)

- retrograde movement of stool
- inhibition of propagating contractions
- increased transit time

The Rules

- gastrocolic reflex (waking and post prandial)
- squatting
- small = difficult, large = easy
- hard = difficult, soft = easy

Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. **Entirely Liquid**

Diseases and Conditions Causing Constipation

- dietary & environmental-(poor bowel habit, low fiber diet, inadequate fluids, immobility)
- mechanical (cancer, stricture, etc.)
- neurological (stroke, Parkinson's, spinal cord injury, multiple sclerosis)
- metabolic (hypercalcemia, hypokalemia, hypomagnesemia, uremia)

Thomas DR. et al Annals of Long Term Care 2003;10:1-148

continued

Diseases and Conditions Causing Constipation *cont.*

- endocrine (diabetes mellitus, hypothyroidism, Addison's disease, porphyuria, hyperparathyroidism, pregnancy)
- myopathies
- psychiatric (depression, anxiety, somatization)
- drugs

Thomas DR. et al Annals of Long Term Care 2003;10:1-148

Psychiatric and Psychologic Causes or Aggravators of Constipation

- Symptom of psychiatric disease or consequence of Rx
- Depression, eating disorders, denied BM's
- Some personality characteristics in men predict stool size
- Depressed mood and repressed anger increase transit time

continued

Psychiatric and Psychologic Causes or Aggravators of Constipation *cont.*

- Constipation in women correlated to higher somatization and anxiety scores and lower rectal mucosa blood flow
- Constipation in elderly correlated with metrics for somatization, obsessive compulsive, depression and anxiety
- Slow transit constipation more correlated to psychological distress than normal transit constipation

"Depression is merely anger without enthusiasm."

- Larry the Cable Guy

Some drugs that may cause constipation

- antacids (Ca, aluminum)
- anticholinergics*
- anticonvulsants
- antihistamines
- bismuth
- calcium channel blockers
- calcium supplements
- choestyramine
- clonidine
- diuretics
- epoetin alfa
- hydralazine
- iron
- oxybutynin
- progesterone
- vinca alkaloids

Some pain medications that can cause constipation

- opiate analgesics
- tramadol
- NSAIDs

"Let the finger that writes the narcotic order be the same that writes the laxative order, lest it be the finger that does the disimpaction!"

Kerry Cramner MD

Some psychotropic medications associated with constipation

- alprazolam (10-26%)
- bupropion (26%)
- mirtazapine (13%)
- venlafaxine (15%)
- all MAOIs, tricyclic antidepressants, typical and atypical antipsychotics (Ach, 5HT, and dopamine?)

Workup of Constipation

History

Physical examination

- rectal examination
- endocrine
- neurological
- Psychiatric

continued

Workup of Constipation *cont.*

Laboratory-CBC, chem panel (calcium, glucose), TSH, sed rate, stool for occult blood, other as indicated by clinical suspicion from history and physical

- Anoscopy, sigmoidoscopy or colonoscopy as indicated
- GI consultation as indicated

Treatment of Constipation

- Bulk agents
- Castor oil
- Lubricant
- Osmotic agents
- Anthraquinone stimulants
- Diphenylmethane stimulants
- Saline
- Stool softeners
- Enemas/suppositories
- Prokinetic agents

Bulk agents

- Increases fiber when taken with water
- Often first choice due to safety
- Caution if poor fluid intake
- Contraindicated with obstruction or poor motility
- Metamucil, Citrucel, Fibercon, etc.

Castor oil

- Increases peristalsis
- Contraindicated in obstruction
- Several brands

Lubricant

- Lubricates fecal bolus
- Avoid in most cases due to risk of lipoid aspiration pneumonia
- Mineral oil

Osmotic Agents

- Hypertonicity causes water to osmose into colon
- Flatulence, bloating, cramping
- Caution if poor fluid intake
- Contraindicated for some in CKD, CHF as absorbed systemically
- Sorbitol, lactulose, MiraLax, others

Anthraquinone and Diphenylmethane Stimulants

- Increases peristalsis
- Contraindicated in obstruction
- Risk for tachyphylaxis
- Use prn, sparingly when other Rx fails
- Anthraquinones: Cascara, senna, Ex-Lax, others
- Diphenylmethanes: Ducolax

Saline

- Hypertonicity causes increase in stool water
- Milk of Magnesia, magnesium citrate, Fleet's, PhosphoSoda, others

Stool Softeners

- Surfactant (wetting agent)
- Somewhat useful in those with straining or pain with laxation due to hemorroids or fissures
- Little efficacy demonstrated in clinical trials for others
- Colace, Surfak, others

Enema/Suppository

- Local stimulation, lubrication
- Fleet's PhosphoSoda, bisacodyl, glycerine, soap suds
- .....and my personal favorite- cool coffee! (just kidding)

Prokinetic Agents

- increases peristalsis
- off label / investigational
- some may cause cardiac arrythymia
- metoclopramide, tegaserod, cisapride, erythromycin, octreotide

Methylnaltrexone bromide: Method of Action

- Peripherally acting mu-opioid receptor antagonist
- Decreases the opioid induced constipation without decreasing analgesic effect of narcotic
- Peak concentration (C max) ~ ½ hour
- Terminal half-life (T ½) ~ 8 hours

Role of Fiber

- increases stool bulk
- decreases transit time by stimulating propulsive forces (if present)
- insoluble and coarse is best- TITRATION!
- How much? (20gms to 35gms/day?)

Lifestyle Modifications

[Consider as part of institutional policies, procedures, dietary planning, activities planning, programs to encourage adequate intake of fluids]

- routine schedule and easy access prn
  - individualized
  - gastrocolic reflex (waking and postprandial)
- activity
- 1500-2000 cc water daily
  - free water and food water
- fiber (wheat or oat bran)

continued

Lifestyle Modifications *cont.*

- avoidance of excessive constipating foods in susceptible individuals
- avoidance of potentially constipating medication in susceptible individuals, or
- prophylactic interventions to prevent or treat constipation in susceptible individuals who cannot do without potentially constipating medications

Interdisciplinary Management of Constipation in the Institutional Setting

- Physician's role – assessment for diseases, conditions and medications predisposing to constipation, prescribing prophylaxis or treatment
- Nursing/CNA role –assessing for conditions predisposing to constipation, assisting patients with toileting, hydration, feeding as needed and monitoring /documenting bowel habit, dispensing routine and prn medications for constipation

continued

Interdisciplinary Management *cont.*

- Consultant pharmacist's role – assessing for medications predisposing to constipation, recommending dose reductions or alternative therapies as appropriate
- Dietician's role- planning institutional menu, meeting nutritional, fluid and fiber goals, and individualizing diets for constipated or at risk patients
- Activities therapist's role- planning group and individual activities to meet physical exercise goals, motivate participation, report non participation

Fecal Impaction

- No universally accepted definition
- In my experience, often diagnosed at ER/hospital on basis of presentation from chronic care institution and presence of hard stool in rectum!
- I offer that one must have hard fecal bolus and signs/symptoms of obstruction to diagnose fecal impaction
- A sentinel event for long term care facility

"Nothing goes right when your underwear is tight!"

-D.A. Smith MD

Questions
&
Answers

Again, we want to thank our donors and partners:

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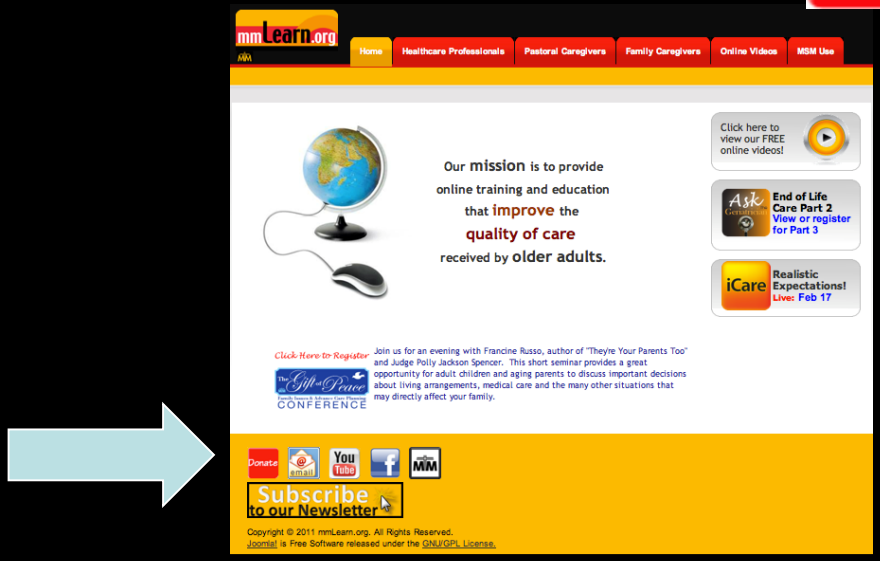

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Thank You!