“Colitis” in Naturopathic Primary Care:

What you need to know about ulcerative colitis, crohn’s disease, and microscopic colitis

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Megan Taylor, ND

WANP October 13th, 2019

Educational outcomes

- Review diagnostic criteria of ulcerative colitis, crohn’s disease, microscopic colitis
- Recognize clinical signs/symptoms of these conditions
- Perform AND refer for appropriate diagnostic evaluation
- Understand conventional approaches, and employ/refer for as appropriate
- Review selection of naturopathic treatment interventions

About me

- Graduated from the National University of Natural Medicine (NUNM)
- Completed 2-years of residency in primary care, teaching, and gastroenterology
- Prior adjunct faculty at NUNM, future adjunct faculty at Bastyr University, will be co-teaching the gastroenterology curriculum in 2020
- Vice-President of the Gastroenterology Association of Naturopathic Physicians (GastroANP) - Check us out! GastroANP.org

Special thanks

- WANP!
- Steven Sandberg-Lewis, ND
- Mark Davis, ND
- Ilana Gurevich, ND
- Eric Yarnell, ND

“Colitis”

The various uses of “colitis” overtime

- IBS → historically referred to as “colitis”, “mucus colitis”, “spastic colitis”
- Colitis = inflammation of colon
  - Microscopic or macroscopic
  - Infectious or non-infectious
    - Idiopathic, genetic, autoimmune, irritant, medication induced, ischemic
- The plural of colitis is “colitides”!

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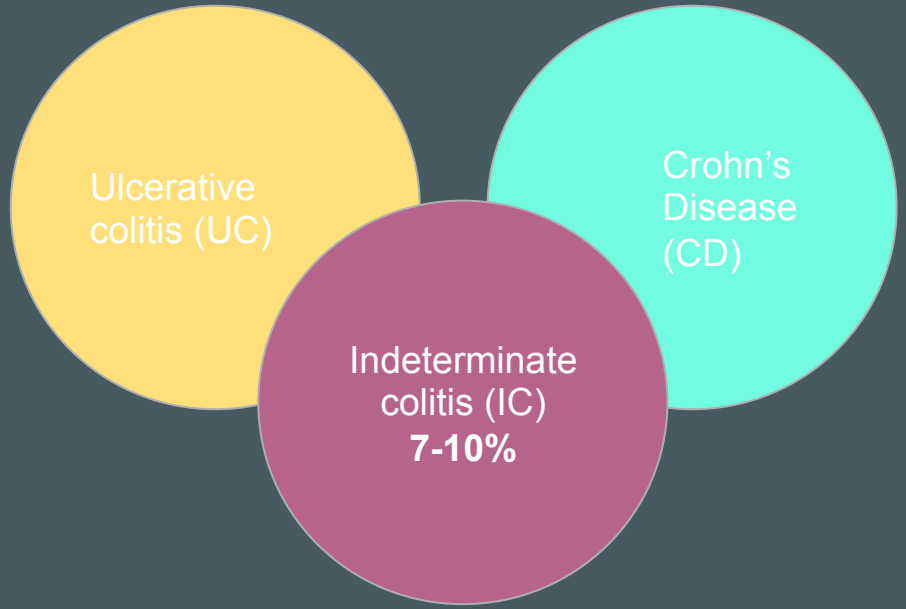
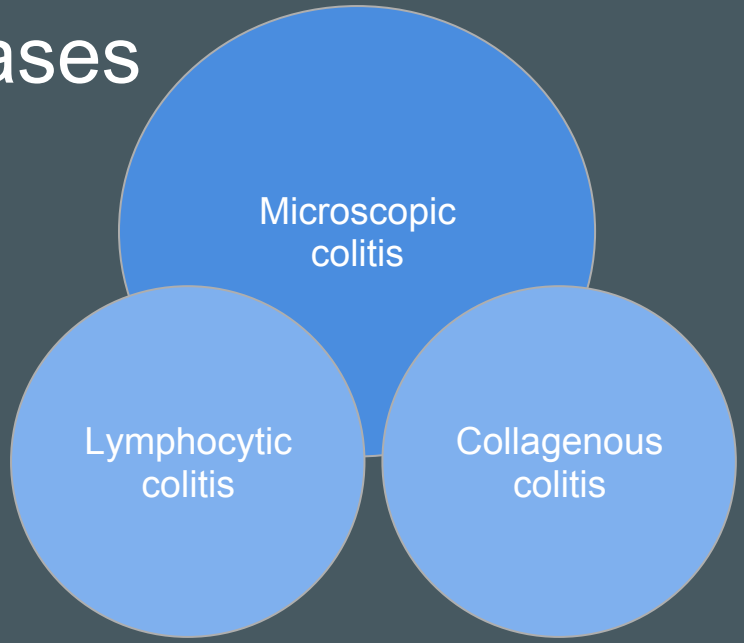
The Inflammatory Bowel Diseases





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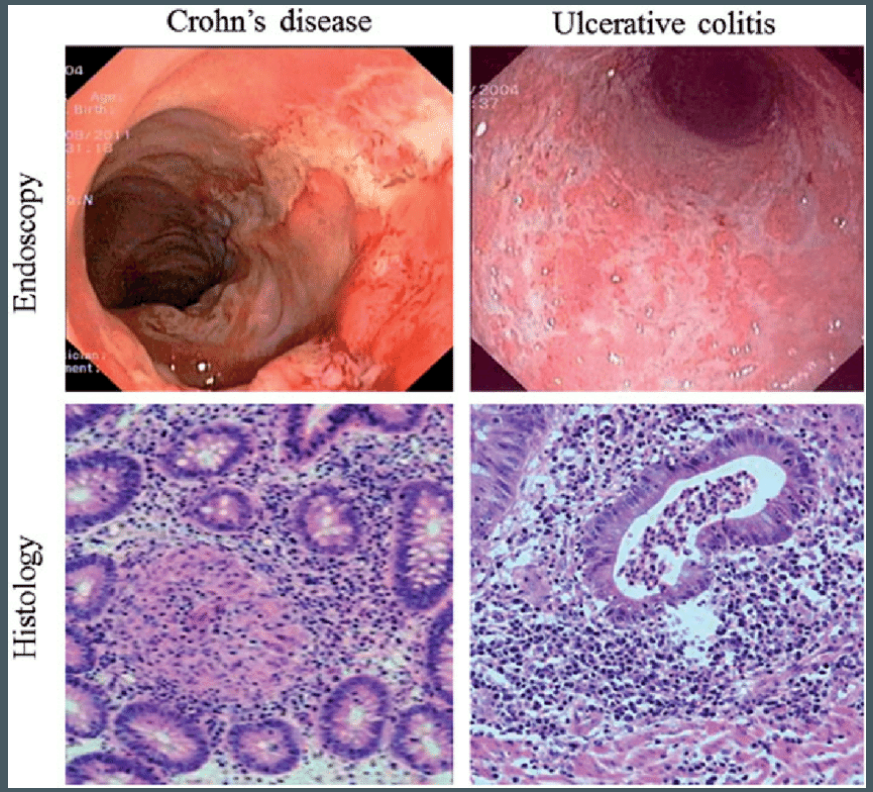
Differentiating the IBDs

Adapted from: Sairenji, et al. 2017
Hempel & Sharma. 2019. Stat Pearls.

	UC	CD	MC
Morphological changes	Macroscopic & microscopic	Macroscopic & microscopic	Microscopic
Endoscopic findings	Rectal involvement, **continuous** mucosal change	Transmural changes, **skip lesions**, granulomas	Normal appearing tissue
Location	Starts at rectum, moves proximal	Anywhere in GI tract, rectum spared	Colon
Etiology	Intestinal flora changes + genetic predisposition → Immune dysregulation		Drug induced, smoking, AI?
FHx increases risk?	Yes	Yes (strongest)	No

Endoscopic & histologic findings - UC vs CD



CD:

- endo: serpiginous ulcerations & patchy inflammation → cobblestone pattern
- histo: infiltration of inflammatory cells & presence of granuloma

UC:

- endo: erythema, loss of vascular pattern, friability, and erosions
- histo: infiltration of inflammatory cells, goblet cell loss, & crypt abscesses

Figure 1 from
de Bruyn. Crit Rev Biochem Mol Biol. 2016.

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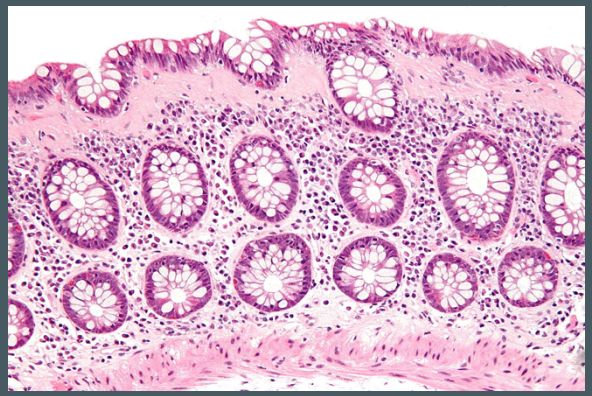
Histologic findings - CC vs LC

Collagenous Colitis

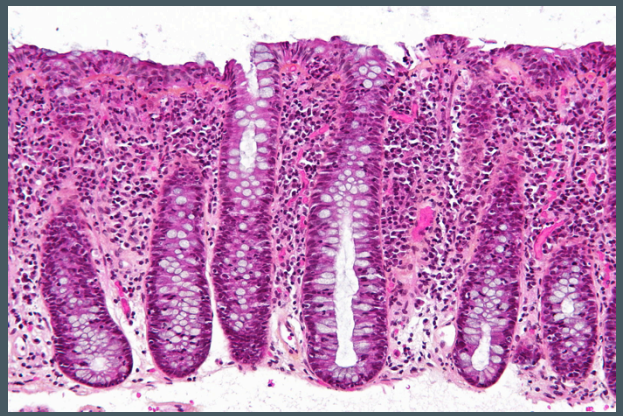


Nephron [CC BY-SA 3.0 (https://creativecommons.org/licenses/by-sa/3.0)]

Collagen band > 10 um in diameter in subepithelial layer

Hooper & Sharma. 2019. Stat Pearls.

Lymphocytic colitis



Nephron [CC BY-SA 3.0 (https://creativecommons.org/licenses/by-sa/3.0)]

≥ 20 intraepithelial lymphocytes per 100 epithelial cells, without crypt distortion

Medication Use & Risk of MC

Table 6. Assessment of the level of likelihood that a specific drug can trigger microscopic colitis (MC): review of the literature

Drugs	Individual clinical cases with the best resulting score (detailed score, related reference)	Literature score (references)	Likehood that the drug can cause MC
Acarbose	R4 (Ch3Ca3, 45)	3 (45)	High
Aspirin	R3 (Ch3Ca1, 67)	3 (51, 55, 67, 68)	High
Carbamazepine	R3 (Ch3Ca1, 65)	2 (30, 65)	Intermediate
Cimetidine	R1 (Ch2Ca1, 28)	2 (28)	Low
Cyclo3 Fort*, Cirkan*	R4 (Ch3Ca3, 17)	3 (16, 17, 26)	High
Daflon†	R1 (Ch3Ca1, 38)	2 (38)	Low
Flutamide	R3 (Ch3Ca1, 66)	2 (66)	Intermediate
Gold salts	R1 (Ch2Ca1, 64)	1 (63, 64)	Low
Lansoprazole	R3 (Ch3Ca1, 56)	3 (56, 57)	High
Lisinopril	R3 (Ch3Ca1, 64)	1 (64)	Intermediate
Modopar‡	R3 (Ch3Ca1, 46)	2 (46)	Intermediate
NSAIDs	R3 (Ch3Ca2, 52)	3 (13, 14, 39, 51–53, 55, 65, 67–69)	High
Oxetorone	R3 (Ch3Ca1, 54)	2 (54)	Intermediate
Paroxetine	R3 (Ch3Ca1, 65)	1 (65)	Intermediate
Piascledine§	R3 (Ch3Ca1, 60)	1 (60)	Low
Ranitidine	R4 (Ch3Ca3, 23)	2 (23)	High
Sertraline	R3 (Ch3Ca3, personal cases (L.B.))	3 (65 and three personal unpublished cases (L.B.))	High
Simvastatin	R3 (Ch3Ca1, 70)	2 (65, 70)	Intermediate
Tardyferon¶	R3 (Ch3Ca1, 27)	2 (27)	Intermediate
Ticlopidine	R3 (Ch3Ca1, 61)	3 (15, 55, 61, 68)	High
Vinburnine	R3 (Ch3Ca1, 33)	2 (33)	Intermediate

* Vegetable extract from *Ruscus aculeatus*, hesperidine methylchalcone and ascorbic acid.
† Flavonoids.
‡ Levodopa and benserazide.
§ Unsaponifiable fraction of avocado and soya oil.
¶ Iron sulphate and ascorbic acid.

Figure from Beaugerie, et al. *Aliment Pharmacol Ther*. 2005.

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Pathogenesis of UC & CD - It's Complicated

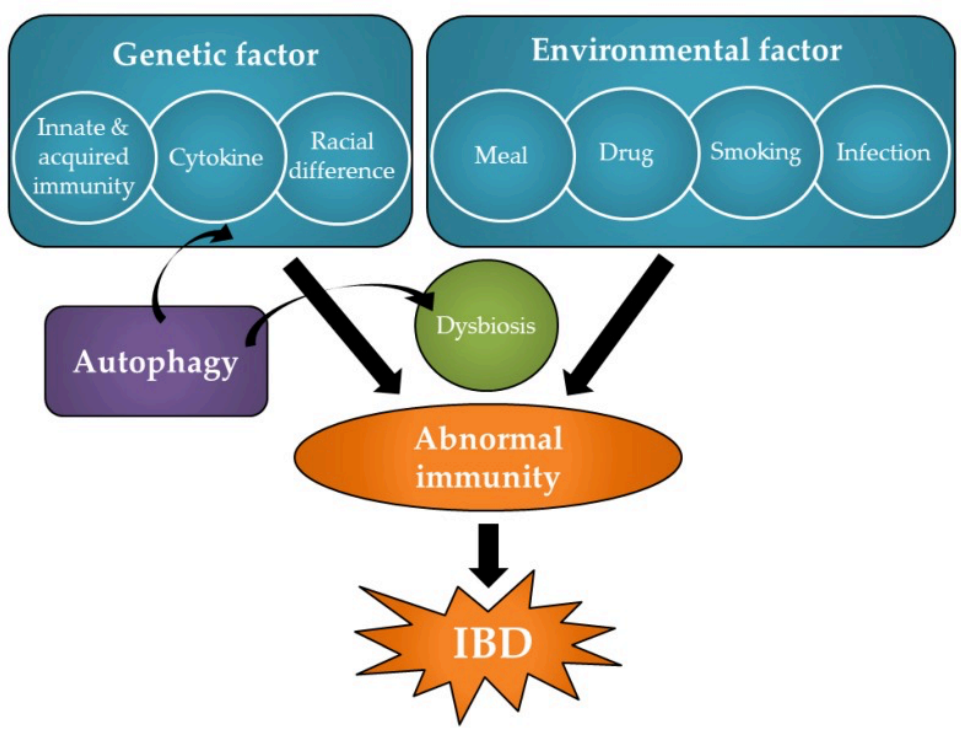

Figure from
Iida. 2019. *Cell.*

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Onset & Presentation

Adapted from: Sairenji, et al. 2017
Hempel & Sharma. 2019. Stat Pearls.

	UC	CD	MC
Onset	Slower (wk/mo)	Abrupt (d/wks)	Mixed
Age of onset (peak)	10-30s	10-30s	50s-70s
Prevalence by sex	F=M (approx)	F=M (approx)	F>M
Abdominal pain	Uncommon	Common	Uncommon
Rectal bleeding	++	+	None
Diarrhea	++	+	+++
Nighttime stool	++	+++	+++

Onset & Presentation

	UC	CD	MC
Fatigue	++	+++	+++
Weight loss	+	+++	+++
Extra intestinal manifestations (eyes, skin, liver, joints)	+	++	Not typically

Adapted from: Sairenji, et al. 2017
Hempel & Sharma. 2019. Stat Pearls.

Extraintestinal manifestations

Table 2
Extraintestinal manifestations of inflammatory bowel disease

Musculoskeletal system	• Arthritis: ankylosing spondylitis, isolated joint involvement • Hypertrophic osteoarthropathy: clubbing, periostitis • Other: aseptic necrosis, polymyositis
Dermatologic/Oral system	• Reactive lesions: erythema nodosum, pyoderma gangrenosum, aphthous ulcers, necrotizing vasculitis • Specific lesions: fissures, fistulas, oral Crohn disease, drug rashes • Nutritional deficiencies: acrodermatitis enteropathica, purpura, glossitis, hair loss, brittle nails • Associated diseases: vitiligo, psoriasis, amyloidosis
Hepatopancreatobiliary system	• Primary sclerosing cholangitis, bile-duct carcinoma • Associated inflammation: autoimmune chronic active hepatitis, pericholangitis, portal fibrosis, cirrhosis, granulomatous disease • Metabolic manifestations: fatty liver, gallstones associated with ileal Crohn disease
Hematologic	Anemia, hyperhomocysteinemia
Ocular system	Uveitis/iritis, episcleritis, scleromalacia, corneal ulcers, retinal vascular disease
Metabolic system	Growth retardation in children and adolescents, delayed sexual maturation, osteopenia/osteoporosis
Renal system	Calcium oxalate stones

Sairenji, et al. 2017

Onset & Presentation: Take Aways!

RED FLAGS:

- Rectal urgency
- Rectal bleeding (UC>CD>MC)
- Nocturnal symptoms
- Weight loss
- Eye, joint & skin symptoms
- Fistula (CD)

Always be on the look-out for severe abdominal pain, bloating, systemic symptoms as these could indicate complications:

- Toxic megacolon
- Perforation
- Obstruction due to stricture

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Long-term prognosis/complications

	UC	CD	MC
Surgery required?	20-30%	Up to 50% at 10 yrs	Rare
Increased risk CRC	Yes, increased risk 8-10 years following initial diagnosis	Yes, colitis> small bowel disease	No
Increased risk of SB CA	No	Yes, 10-12 x gen pop, though small	No
Mortality rates compared to general pop	Close to =	1.3-1.5 x	=

Adapted from: Sairenji, et al. 2017
Triantafillidis, et al. 2009.

Clinical Case: 47 yo F Property Manager

- 12/31/2018 PTC with nausea, bloating, flatulence, belching, abdominal pain, and fatigue x 11 days
  - Onset during stressful holidays
  - Pain like “ball at base of sternum” worse at night, with lower abdominal cramping
  - Anorexia, sxs worse eating
  - Constipation the day before and day of visit
  - RECOMMENDATIONS: Low FODMAP Diet, ECPO, Probiotic, f/u 2 weeks
- 1/04/2019: Follow-up with onset of diarrhea x 2 days, “several times daily” and immediately after meals (up to 3 stools after meals)
  - Watery stools, no blood, some mucus, no undigested foods
  - Significant nighttime pain - not sleeping for > 2 hours at a time
  - FHx Gallbladder disease, no FHx IBS, IBD, etc.
  - RECOMMENDATIONS: Labs, RUQ U/S, Podophyllum homeopathic, BRAT Diet, electrolytes

Differential Diagnosis

- Needs to be BROAD
- IBD, including MC
- IBS-D
- CRC
- Medication induced diarrhea
- Infectious diarrhea
- Ischemic colitis
- Malabsorptive diarrhea - celiac, bile salt diarrhea

Diagnostic work-up

Initial evaluation:

- Stool culture
  - campy, salmonella, shigella, EHEC
- O&P x 3
- C. diff toxin (stool)
- Giardia antigen testing (stool)
- (Cryptosporidium testing)
- FOB (unless frank blood)
- **Fecal calprotectin**
  - **89-98% specific, 81-91% sensitive for UC>CD (colitis>SB disease)**
- Fecal lactoferrin
  - 80% sensitive, 82% specific for CD, UC

Blood based testing:

- Celiac serology
- Thyroid
- ESR
- CRP
  - CD>UC
- Anemia screen
  - CD>UC>MC
- CMP
  - electrolytes, hypoalbuminemia

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Scand J Gastroenterol. 2015 Jan;50(1):74-80. doi: 10.3109/00365521.2014.987809.

Fecal calprotectin in diagnosis and clinical assessment of inflammatory bowel disease.

Sipponen T[1], Kolho KL.

Author information

Abstract

The fecal neutrophil-derived biomarker calprotectin has several features of an ideal noninvasive test for detecting intestinal inflammation: it is simple, reliable, and low in cost. Its utility in differentiating inflammatory bowel diseases (IBDs) from functional conditions such as irritable bowel syndrome is well documented. Fecal calprotectin (FC) correlates closely with endoscopic activity of IBD. Emerging evidence suggest its usefulness in serial monitoring of disease activity and of therapy success in IBD. A low FC concentration predicts persistence of clinical remission especially in non-symptomatic ulcerative colitis and Crohn's colitis. Here, an overview is given to the current role of FC in diagnosis and clinical assessment of IBD.

KEYWORDS: Crohn's disease; fecal markers; monitoring; ulcerative colitis

Comment in

Correspondence: fecal calprotectin and cut-off levels in inflammatory bowel disease. [Scand J Gastroenterol. 2015]

PMID: 25523558 DOI: 10.3109/00365521.2014.987809

Diagnostic work-up

Serologic markers:

- Anti-Saccharomyces cerevisiae antibody (ASCA) - CD (96-100% specific, 50% sensitive)
  - Higher levels → more complicated disease
- Perineutrophilic cytoplasmic antibody (pANCA) - UC > CD
  - Less likely to respond well to anti-TNF therapies
  - Greater likelihood of developing pouchitis post colectomy

Genetic testing:

- Not yet clinically applicable
- Variable penetrance, complex inheritance pattern
- Multiple SNPs have been implicated in pathogeneis, including:
  - CD - ATG16L1, NKX2.3, STAT3, IL-10, NOD2
  - UC - NKX2.3, STAT3, ECM1, IL-10
- TPMT testing to guide therapy with thiopurines in IBD

Goodman & Chung. 2016. *Clin Transl Gastroenterol.* McGovern, et al. 2010. *Gastroenterol*

Referral to GI Specialist

Endoscopic Evaluation = GOLD STANDARD

- Colonoscopy w/ Biopsy
- Upper EGD or capsule endoscopy can be used in suspected/ confirmed CD patients
- Biopsy of terminal ileum diagnostic feature of CD
- In normal appearing colon, to r/o MC random biopsy should be taken
    - per AGA Guideline, 2 or more biopsies from R, transverse, descending, and sigmoid colon

Nguyen, G. et al. 2016. *Gastroenterology.*
Schor, et al. 2018. *Clin Exp Gastro.*

Additional testing for IBD patients

- Microbial testing:
  - Dysbiosis in large and small bowel (SIBO)
  - Fungal overgrowth
  - Occult parasitic/protozoal infection
- Digestive insufficiency
  - Functional hypochlorhydria, pancreatic insufficiency
- Food sensitivities/intolerances

Treat IBD AND additional dx for optimal clinical benefit

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Clinical Case: 47 yo F - Diagnostic Eval

Laboratory Evaluation:

- LabCorp - White Blood Cells (WBC), Stool [008656]
- LabCorp - Lactoferrin, Fecal, Quant. [123016]
- LabCorp - Stool Culture [008144]
- LabCorp - C difficile Toxins A+B, EIA [086207]
- LabCorp - Ova + Parasite Exam [008623]
- LabCorp - CBC With Differential/Platelet [005009]
- LabCorp - Comp. Metabolic Panel (14) [322000]
- LabCorp - Sedimentation Rate-Westergren [005215]
- LabCorp - C-Reactive Protein, Quant [006627]
- LabCorp - Celiac Ab tTG TIgA w/Rflx [164047]

Referral for work-up via GI Specialist

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Clinical Case: 47 yo F - Test results

1/05/2019:

- Blood results: WNL WBC, no evidence of anemia, **low serum protein**, tTG IgA and total IgA WNL, **CRP 6.2**, ESR WNL
  - Follow up 1/11/2019: CRP 20.4; low BUN, creatinine, protein, albumin & calcium
- Stool analysis: neg stool culture, neg stool WBC, neg O&P, **elevated lactoferrin (396.7)**, neg C. diff

1/16/2019: Initial colonoscopy results

- WNL Colonoscopy with WNL random biopsy
- Dx IBS, recommended imodium, protein drinks

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Clinical Case: 47 yo F - Test results

2/4/2019:

- Patient progressively worse, continued CRP elevation
- Referred to new GI Specialist for second opinion, additional testing
- Upper EGD revealed "active duodenitis with villous blunting". Thought to be post-infectious vs crohn's or celiac.
    - Elevated CRP thought to be due to psoriasis.

RECOMMENDATIONS:

Patient is instructed to use sublingual Levsin as need for rapid relief, Bentyl for consistent relief for abdominal cramping, urgency, the Tramadol is for severe pain, Phenergan suppository as needed for nausea, vomiting, Amitriptyline at bedtime to reduce overall digestive distress
amitriptyline 10 mg Take 1 tablet by mouth at bedtime as needed

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Important Questions to Ask IBD patients

- Age of onset - earlier onset = often more severe disease
- Frequency of flares
- Location of disease
  - eg, proctitis vs pancolitis for UC, ileitis vs ileocolitis for CD
- Timeline of past treatments
  - Corticosteroid use? Failed biologics?
- Past surgical interventions
  - What was removed? History of fistula? Stricture? Ostomy? Pouch?

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IBD Management - Know your resources!

AGA Management Guidelines for IBD

- Mild to Moderate Ulcerative Colitis - 2019
- Microscopic Colitis - 2016
- Crohn's Disease after Surgery - 2017

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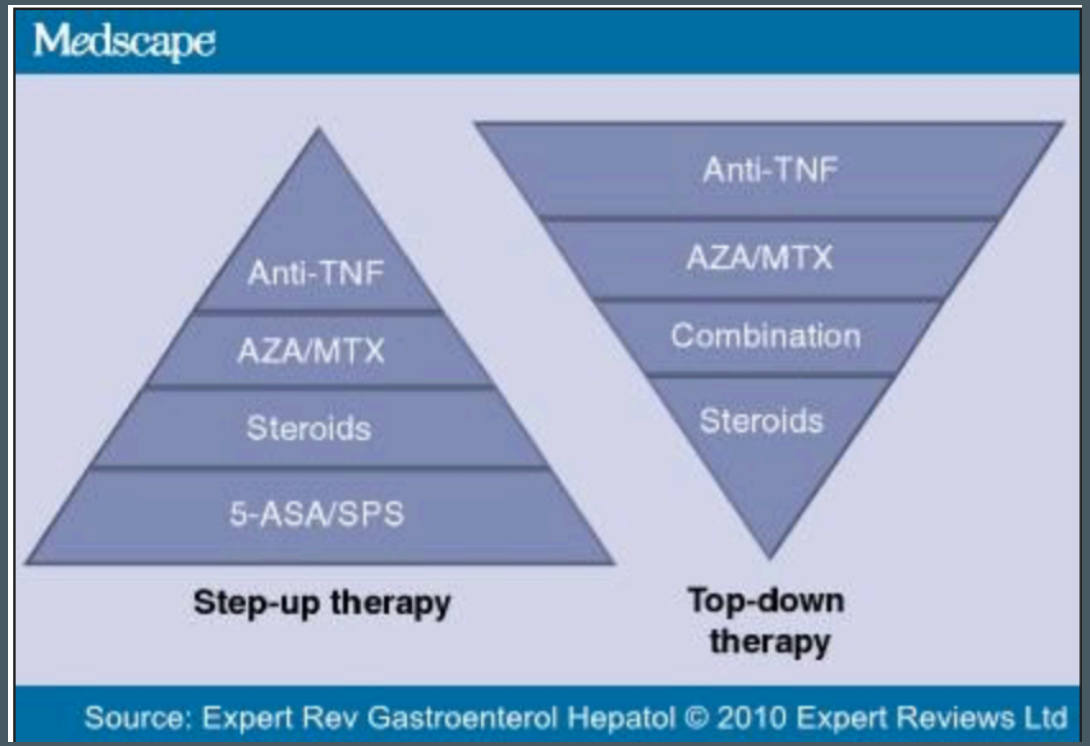
Treatment of IBD

<u>Goal of treatment</u> → *achieve remission, improve QOL, prevent complications/adverse outcomes*

Defining remission as:

- Endoscopic remission
- (Laboratory evidence of remission)
- Symptomatic remission

CD Approaches to Treatment - "Top Down" vs "Step Up"



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Approaches to Treatment for Ulcerative Colitis

	ASA	Topical ASA	Steroids	Anti-TNF
Mild-to-Moderate Disease	Max doses	*Can combine*		
Severe Disease	Initiated along with steroid taper		Initial therapy, followed by taper	For recalcitrant disease
Proctitis		Rectal suppositories		
“L-sided” disease		Enemas		

Sairenji, et al. 2017

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Treatment of MC

Hempel & Sharma. 2019. Stat Pearls.
Nguyen, G. et al. 2016. *Gastroenterology.*
Schor, et al. 2018. *Clin Exp Gastro.*

- Budesonide - 2016 AGA Guideline - <u>1st line</u>
  - Extensive first-pass metabolism, less risk of AE
  - 9 mg po x 6-8 weeks
- Loperamide - *was previously the ONLY identified therapy*
  - 2-16 mg/day - seldom achieve clinical remission
  - No RCTs, no evidence of histological improvement
- Bismuth subsalicylate - <u>2nd line</u>
  - 3 - 292mg tabs TID, Clinical remission in small RTC (n=14)
- Cholestyramine
  - Bile salt malabsorption found in 44% of patients with CC (small study, n=27)

CLINICAL PEARL: Slow budesonide titration is a MUST!

- Clinically, relapse is common upon d/c of budesonide, esp if done without wean
- My preference for a recommended wean:
  - 9mg qd x 6-8 weeks
  - 6mg qd x 2 weeks
  - 3mg qd x 2 weeks
  - 3mg qod x 1-2 weeks
- Initiate other therapies during wean to maximize chance of prolonged remission

Clinical Case: 47 yo F - Mayo Clinic

- Visited Mayo Clinic late May/Early June x 2 weeks
- Evaluation:
  - Electrolyte disturbances, anemia, malnutrition
  - Elevated fecal calprotectin
  - Upper EGD - "*Marked active chronic duodenitis, sparse plasma cells; antral & fundic mucosa with active chronic gastritis*," (=) H. pylori, (+) bacterial cultures, (=) yeast
  - Colonoscopy - "*Marked chronic inflammation in TI with severe villous blunting, sparse plasma cells, patchy mild active colitis*," Not consistent with Crohn's, No evidence of MC colitis.
  - **DDx Unknown IBD, Autoimmune enteropathy**
- Recommendations:
  - Repeat course of Rifaximin for bacterial overgrowth
  - Continued creon for pancreatic insufficiency
  - Budesonide 9mg taper x 5 months

Non-pharmacologic therapies

Foundations:

- Diet
- Hydration
- Sleep
- Exercise
- Stress-reduction
- Mental Health

Interventions:

- Botanicals
- Nutraceuticals
- Ozone, HBOC
- Microbial products
- Adjunctive prescription agents

Diet in IBD

Curr Gastroenterol Rep. 2017 May;19(5):22. doi: 10.1007/s11894-017-0563-z.

The Role of Diet in Inflammatory Bowel Disease.

Shivashankar R[1], Lewis JD[2].

Author information

Abstract

"Diet may play both a causal and therapeutic role for inflammatory bowel disease."

"…{A} reasonable approach….is to propose a well-balanced, healthy (low-fat, low-sugar) diet prepared from fresh ingredients, such as the Mediterranean diet, with exclusion of self identified [triggers]."

well-balanced, healthy (low-fat, low-sugar) diet prepared from fresh ingredients, such as the Mediterranean diet, with exclusions of self-identified foods that worsen or trigger IBD-related symptoms.

KEYWORDS: Diet; IBD pathogenesis; IBD therapy; Inflammatory bowel disease

PMID: 28397133 DOI: 10.1007/s11894-017-0563-z

Diet in IBD

- Specific Carbohydrate Diet
  - McCormick & Logomarsino, 2017; compiled articles
- Semi-Vegetarian Diet or Plant-based Diet (PBD) (CD)
  - Chiba, et al 2010; Chiba, et al 2019
- Elimination Diet/Anti-inflammatory Diet
- IgG 4 Exclusion Diet (CD)
  - Guanasekeera, et al. 2016
- Low/No Sulfur (UC)
  - Jowett, et al 2004
- Low FODMAP Diet
- Autoimmune Protocol (AIP) Diet

CLINICAL PEARLS: Diet in IBD

- DON’T FORGET: Small interventions can make a BIG difference
  - Reduction in caffeine, lactose, and alcohol should be attempted for all
- SCD or GAPS Intro diet can often be employed in flares
  - Be mindful of onset of sudden constipation due to fiber reduction
- MC → Trial of increased fiber - psyllium husk, soluble fibers - can act as effective binders to firm stool!

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Sleep in IBD

Gastroenterol Clin North Am. 2017 Dec;46(4):881-893. doi: 10.1016/j.gtc.2017.08.014.

Sleep and Circadian Hygiene and Inflammatory Bowel Disease.

Swanson GR[1], Burgess HJ[2].

Author information

Abstract

"Emerging research suggests sleep and circadian disruption can impact key components in IBD disease flares, including intestinal permeability, translocation of bacterial endotoxins, intestinal dysbiosis, and proinflammatory cytokines."

There is a clear need for large randomized controlled trials in human patients with IBD, where the potential for chronotherapeutic strategies to improve disease course can be tested.

KEYWORDS: Advance; Circadian; Delay; Light; Sleep

Exercise in IBD

Biomed Res Int. 2014;2014:429031. doi: 10.1155/2014/429031. Epub 2014 Apr 30.

The role of physical exercise in inflammatory bowel disease.

Bilski J[1], Brzozowski B[2], Mazur-Bialy A[1], Sliwowski Z[3], Brzozowski T[3].

Author information

Abstract

We reviewed and analyzed the relationship between physical exercise and inflammatory bowel disease (IBD) which covers a group of

"Contracting skeletal muscles releases biologically active myokines, known to exert the direct anti-inflammatory effects...further research is required to confirm these observations and establish exercise regimens for IBD patients."

a barrier to the inflammatory process, but recent data suggest that deregulation of adipokine secretion is involved in the pathogenesis of CD. Adipocytokines and macrophage mediators perpetuate the intestinal inflammatory process, leading to mucosal ulcerations along the mesenteric border, a typical feature of CD. Contracting skeletal muscles release biologically active myokines, known to exert the direct anti-inflammatory effects, and inhibit the release of proinflammatory mediators from visceral fat. Further research is required to confirm these observations and establish exercise regimes for IBD patients.

PMID: 24877092 PMCID: PMC4022156 DOI: 10.1155/2014/429031

Mental Health

J Psychosom Res. 2017 Oct;101:68-95. doi: 10.1016/j.jpsychores.2017.07.001. Epub 2017 Jul 26.

Prevalence and effectiveness of psychiatric treatments for patients with IBD: A systematic literature review.

Tarricone I[1], Regazzi MG[2], Bonucci G[2], Rizzello F[3], Carini G[4], Muratori R[4], Poggioli G[3], Campieri M[3]; EspriMici Study Group Ω.

⊕ Author information

Abstract

OBJECTIVES: Higher prevalence of psychiatric disorders, such as anxiety and depression, has been found in people with Crohn's disease and Ulcerative Colitis compared to the general population. Nowadays, international guidelines advocate psychotherapy and psycho-pharmacological treatments as playing an important role in IBD care. The main goal of this systematic literature review was summarize the evidence on the utilization and effectiveness of treatments for depression and anxiety in persons with IBD.

"⅓ of the studies found that psychotherapy was effective for improving the quality of life, perception of stress, anxiety, and depression as well as disease."

proportion of IBD patients have access to psychiatric referral. 1/3 of the studies found that psychotherapy was effective for improving the quality of life, perception of stress, anxiety and depression as well as disease. Antidepressants proved effective in reducing disease activity, gastrointestinal symptoms, anxiety and depression.

CONCLUSION: Our results suggest that psychiatric treatment should be implemented in IBD care. However, further studies are needed to confirm the findings of our systematic review.

KEYWORDS: Antidepressant; Anxiety; Depression; Inflammatory bowel disease; Psycho-pharmacological treatment; Psychotherapy

PMID: 28867427 DOI: 10.1016/j.jpsychores.2017.07.001

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Botanicals

Ann Gastroenterol. 2015 Apr-Jun;28(2):210-220.

Herbal and plant therapy in patients with inflammatory bowel disease.

Triantafyllidi A[1], Xanthos T[1], Papalois A[2], Triantafillidis JK[3].

Author information

Abstract

The use of herbal therapy in inflammatory bowel disease (IBD) is increasing worldwide. The aim of this study was to review the literature on the efficacy of herbal therapy in IBD patients. Studies on herbal therapy for IBD published in Medline and Embase were reviewed, and response to treatment and remission rates were recorded. Although the number of the relevant clinical studies is relatively small, it can be assumed that the efficacy of herbal therapies in IBD is promising. The most important clinical trials conducted so far refer to the use of mastic gum, tormentil extracts, wormwood herb, *aloe vera*, *triticum aestivum*, germinated barley foodstuff, and *boswellia serrata*. In ulcerative colitis, *aloe vera* gel, *t*riticum aestivum, andrographis paniculata extract and topical Xilei-san were superior to placebo in inducing remission or clinical response, and curcumin was superior to placebo in maintaining remission; *boswellia serrata* gum resin and *plantago ovata* seeds were as effective as mesalazine, whereas oenothera biennis had similar relapse rates as ω-3 fatty acids in the treatment of ulcerative colitis. In Crohn's disease, mastic gum, *Artemisia absinthium*, and *Tripterygium wilfordii* were superior to placebo in inducing remission and preventing clinical postoperative recurrence, respectively. Herbal therapies exert their therapeutic benefit by different mechanisms including immune regulation, antioxidant activity, inhibition of leukotriene B4 and nuclear factor-kappa B, and antiplatelet activity. Large, double-blind clinical studies assessing the most commonly used natural substances should urgently be conducted.

KEYWORDS: Alternative medicine; Crohn's disease; herbal medicine; inflammatory bowel disease; ulcerative colitis

PMID: 25830661 PMCID: PMC4367210

Botanicals

Table 1 Number of clinical studies performed so far and number of patients included

Disease	Number of studies	Number of patients
UC (active disease)	11	1008
UC (maintenance treatment)	6	413
CD (active disease)	6	222
CD (post-operative maintenance treatment)	4	231
Total	27	1874

UC, ulcerative colitis; CD, Crohn's disease

Triantafyllidi, et al. 2015. *Annals of Gastrol*

Botanicals

- Boswellia serrata extract (BSE)
  - MC: BSE 400mg (80% boswellia acid) TID x 6 weeks vs placebo → clinical improvements, no difference in remission, QOL (Madisch, A. 2007.)
  - UC: 900mg qd in divided doses x 6 weeks vs sulfasalazine → remission in 14/20 BSE vs 4/10 control (Gupta, et al. 2001.)
  - CD: BSE (H15) vs mesalamine, n =102 → non-statistically significant reduction in remission rates with SBE (Gerhardt et al, 2001)
  - CD: Boswelan 800mg TID vs placebo x 1 year, n = 82 → no difference in maintenance of remission, good tolerability (Holtmeier, et al 2010)

Botanicals

- Curcumin
  - UC: 1 gm BID + sulfasalazine or mesalamine vs placebo + sulfasalazine or mesalamine x 6 months → improved clinical activity index AND endoscopic index, lower recurrence rates (Hanai, et al. 2005.)
  - Several safety studies have demonstrated safety up to 8,000mg/day x 3 months (Triantafyllidi, et al. 2015)

Curcumin

Cochrane Database Syst Rev. 2012 Oct 17;10:CD008424. doi: 10.1002/14651858.CD008424.pub2.

Curcumin for maintenance of remission in ulcerative colitis.

Kumar S[1], Ahuja V, Sankar MJ, Kumar A, Moss AC.

Author information

Abstract

BACKGROUND: Ulcerative colitis (UC) is a chronic inflammatory condition of the colon characterized by episodes of disease activity and symptom-free remission.There is paucity of evidence regarding the efficacy and safety of complementary or alternative medicines for the

"Curcumin may be a safe and effective therapy for maintenance of remission in quiescent UC when given as adjunctive therapy along with mesalamine or sulfasalazine. However, further research in the form of a large scale methodologically rigorous randomized controlled trial is needed to confirm any possible benefit of curcumin in quiescent UC."

publications. Proceedings from major gastroenterology meetings and references from published articles were also searched to identify additional studies.

SELECTION CRITERIA: Randomized placebo-controlled trials (RCT) of curcumin for maintenance of remission in UC were included. Studies included patients (of any age) who were in remission at the time of recruitment. Co-interventions were allowed.

DATA COLLECTION AND ANALYSIS: Two authors independently extracted data and assessed the methodological quality of the included studies using the Cochrane risk of bias tool. Data were analyzed using Review Manager (RevMan 5.1). We calculated the relative risk (RR) and 95% confidence interval (95% CI) for each dichotomous outcome. For continuous outcomes we calculated the mean difference (MD) and 95% CI.

MAIN RESULTS: Only one trial (89 patients) fulfilled the inclusion criteria. This trial randomized 45 patients to curcumin and 44 patients to placebo. All patients received treatment with sulfasalazine or mesalamine. The study was rated as low risk of bias. Curcumin was

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Botanicals

- Artemisia absinthium
  - CD: 500mg TID or placebo x 10 weeks + 40mg prednisone x at least 3 weeks → n = 40, clinical remission in 65% of intervention vs ZERO in control group, improved QOL, steroid sparing effect (Omer, et al. 2007.)
  - CD: 3x750mg dried powder x 6 weeks vs placebo → n = 20, 80% remission in intervention vs 20% control, lowered TNF-alpha (Krebs, et al. 2010.)

Cannabis sativa

Dig Dis Sci. 2017 Jun;62(6):1615-1620. doi: 10.1007/s10620-017-4540-z. Epub 2017 Mar 27.

Low-Dose Cannabidiol Is Safe but Not Effective in the Treatment for Crohn's Disease, a Randomized Controlled Trial.

Naftali T[1,2], Mechulam R[3,4], Marii A[5], Gabay G[6,7], Stein A[6,7], Bronshtain M[6,7], Laish I[6,7], Benjaminov F[6,7], Konikoff FM[6,7].

Author information

"Twenty patients aged 18-75 years with a Crohn's disease activity index (CDAI) >200 were randomized to receive oral (10 mg) CBD or placebo twice daily. ....The average CDAI before cannabidiol consumption was 337 ± 108 and 308 ± 96 (p = NS) in the CBD and placebo groups, respectively. After 8 weeks of treatment, the index was 220 ± 122 and 216 ± 121 in the CBD and placebo groups, respectively (p = NS)."

CONCLUSION: In this study of moderately active Crohn's disease, CBD was safe but had no beneficial effects. This could be due to lack of effect of CBD on Crohn's disease, but could also be due to the small dose of CBD, the small number of patients in the study, or the lack of the necessary synergism with other cannabinoids. Further investigation is warranted. CLINICALTRIALS.GOV: NCT01037322.

KEYWORDS: Cannabidiol; Cannabis; Crohn's disease; Inflammatory bowel disease

PMID: 28349233 DOI: 10.1007/s10620-017-4540-z

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Cannabis sativa

- Cochrane Reviews 2018 - effects uncertain, no firm conclusions regarding efficacy or safety
  - Ulcerative colitis
  - Crohn's disease

Omega 3s

Front Immunol. 2017 Oct 23;8:1331. doi: 10.3389/fimmu.2017.01331. eCollection 2017.

Actors and Factors in the Resolution of Intestinal Inflammation: Lipid Mediators As a New Approach to Therapy in Inflammatory Bowel Diseases.

Ungaro F[1], Rubbino F[1], Danese S[1,2], D'Alessio S[1].

Author information

Abstract

In the last few decades, the pathogenesis of inflammatory bowel disease (IBD) in genetically predisposed subjects susceptible to specific environmental factors has been attributed to disturbance of both the immune and non-immune system and/or to the imbalanced interactions with microbes. However, increasing evidences support the idea that defects in pro-resolving pathways might strongly

*"Although their effects in reducing inflammation is incontestable, results from previous works describing **the effects of PUFA administration to prevent or treat IBD are controversial**. Therefore, more efforts are needed not only to identify and explain the physiological functions of PUFAs in the gut…"*

production of other pro-resolving molecules. We also discuss the numerous attempts in using pro-resolving PUFAs to ameliorate intestinal inflammation, both in patients with IBD and mouse models. Although their effects in reducing inflammation is incontestable, results from previous works describing the effects of PUFA administration to prevent or treat IBD are controversial. Therefore, more efforts are needed not only to identify and explain the physiological functions of PUFAs in the gut, but also to unveil novel biosynthetic pathways of these pro-resolving LMs that may be dysregulated in these gut-related disorders. We suppose that either PUFAs or new medications specifically promoting resolution-regulating mediators and pathways will be much better tolerated by patients with IBD, with the advantage of avoiding immune suppression.

KEYWORDS: inflammatory bowel disease; mucosal inflammation; pathogenesis; polyunsatured fatty acids; pro-resolving lipid mediators; resolution of inflammation; tissue homeostasis

PMID: 29109724 PMCID: PMC5660440 DOI: 10.3389/fimmu.2017.01331

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Probiotics in IBD

J Cell Physiol. 2018 Mar;233(3):2091-2103. doi: 10.1002/jcp.25911. Epub 2017 May 3.

Probiotics are a good choice in remission of inflammatory bowel diseases: A meta analysis and systematic review.

Ganji-Arjenaki M[1], Rafieian-Kopaei M[1].

Author information

1 Medical Plants Research Center, Shahrekord University of Medical Sciences, Shahrekord, Iran.

Abstract

Altered gut bacteria and bacterial metabolic pathways are two important factors in initiation and progression of inflammatory bowel disease (IBD). However, efficacy of probiotics in remission of patients with IBD has not been characterized. This study was performed on the studies that specifically assessed the efficacy of probiotics in attaining clinical response on patients with various types of IBD. The efficacy of variant species of probiotics in different conditions and the influence of study quality in outcomes of randomized controlled trials (RCTs) were also assessed. The RCTs were collected by searching in MEDLINE Web of Science and Google scholar. Then all studies were abstracted in abstraction form and the outcomes were analyzed with fixed-effect and mixed-effect models for assessment of efficacy of variant species of probiotics in subgroups of IBDs. Analysis of 9 trials showed that probiotics had not significant effect on Crohn's disease (CD) ($p = 0.07$) but analysis of 3 trials in children with IBD revealed a significant advantage ($p < 0.01$). Analysis of 18 trials revealed that probiotics in patients with Ulcerative colitis (UC) in different conditions have significant effects ($p = 0.007$). VSL#3 probiotics in patients with UC had significant effect ($p < 0.01$). Combination of Lactobacillus probiotic, prebiotics had significant effect ($p = 0.03$) only in patients with UC. Combination of Saccharomyces boulardii, Lactobacillus, and VSL#3 probiotics in CD had also a trend for efficiency ($p = 0.057$). In children with IBD, the combination of Lactobacillus with VSL#3 probiotics had significant effect ($p < 0.01$). Probiotics are beneficial in IBD, especially the combination ones in UC.

KEYWORDS: Crohn's disease; IBD; probiotics; ulcerative colitis

PMID: 28294322 DOI: 10.1002/jcp.25911

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Prebiotics & probiotics - from Ganji-Arjenaki, et al 2018

UC:

- VSL #3 (now Visbiome) - especially useful for proctitis, pouchitis
  - Dosing up to 900 billion CFU daily
- Bifidobacterium longum + inulin-based FOS appear effective

CD:

- Possibly: Combination S. Boulardii + VSL #3
- Or Lactobacillus sp. +/- S. Boulardii

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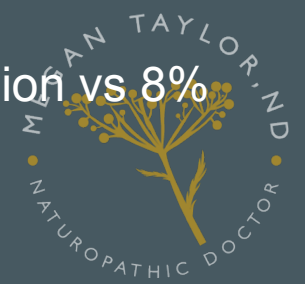
Probiotics

Microscopic colitis:

- L. acidophilus LA-5 + B. animalis subsp. lactis BB-12 x 12 weeks (Wildt, et al. 2006.)
  - non-significant reduction in BM frequency
- VSL#3 900 billion CFU/day vs Mesalamine 1.6 g/d x 8 wks
  - OPEN LABEL TRIAL: 46% intervention group achieved remission vs 8% of control group (Rohatgi, et al. 2015. *BMJ Open Gastroenterol.)*



Probiotics

Aliment Pharmacol Ther. 2017 Aug;46(4):389-400. doi: 10.1111/apt.14203. Epub 2017 Jun 27.

Systematic review with meta-analysis: the efficacy of probiotics in inflammatory bowel disease.

Derwa Y[1,2], Gracie DJ[1,2], Hamlin PJ[1], Ford AC[1,2].

Author information

Abstract

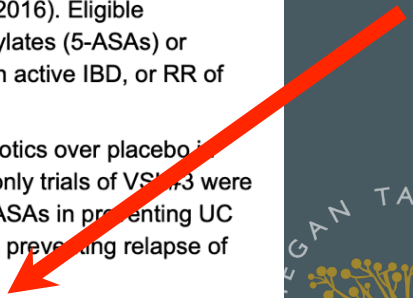
BACKGROUND: Ulcerative colitis (UC) and Crohn's disease (CD) are inflammatory bowel diseases (IBD). Evidence implicates disturbances of the gastrointestinal microbiota in their pathogenesis.

AIM: To perform a systematic review and meta-analysis to examine the efficacy of probiotics in IBD.

METHODS: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register were searched (until November 2016). Eligible randomised controlled trials (RCTs) recruited adults with UC or CD, and compared probiotics with 5-aminosalicylates (5-ASAs) or placebo. Dichotomous symptom data were pooled to obtain a relative risk (RR) of failure to achieve remission in active IBD, or RR of relapse of disease activity in quiescent IBD, with 95% confidence intervals (CIs).

RESULTS: The search identified 12 253 citations. Twenty-two RCTs were eligible. There was no benefit of probiotics over placebo in inducing remission in active UC (RR of failure to achieve remission=0.86; 95% CI=0.68-1.08). However, when only trials of VSL#3 were considered there appeared to be a benefit (RR=0.74; 95% CI=0.63-0.87). Probiotics appeared equivalent to 5-ASAs in preventing UC relapse (RR=1.02; 95% CI=0.85-1.23). There was no benefit of probiotics in inducing remission of active CD, in preventing relapse of quiescent CD, or in preventing relapse of CD after surgically induced remission.

CONCLUSIONS: VSL#3 may be effective in inducing remission in active UC. Probiotics may be as effective as 5-ASAs in preventing relapse of quiescent UC. The efficacy of probiotics in CD remains uncertain, and more evidence from RCTs is required before their utility is known.



Really, S. boulardii in Crohn's? What about those ASC

Immunopharmacol Immunotoxicol. 2018 Dec;40(6):465-475. doi: 10.1080/08923973.2018.1469143. Epub 2018 May 17.

Review of Saccharomyces boulardii as a treatment option in IBD.

Sivananthan K[1,2], Petersen AM[1,2].

Author information

Abstract

CONTEXT: Review of the yeast Saccharomyces boulardii as a treatment option for the inflammatory bowel diseases (IBD) ulcerative colitis and Crohn's disease.

OBJECTIVE: IBD is caused by an inappropriate immune response to gut microbiota. Treatment options could therefore be prebiotics, probiotics, antibiotics and/or fecal transplant. In this review, we have looked at the evidence for the yeast S. boulardii as a treatment option.

MATERIAL AND METHODS: Searches in PubMed and the Cochrane Library with the MeSH words 'Saccharomyces boulardii AND IBD', 'Saccharomyces boulardii AND Inflammatory Bowel Disease', 'Saccharomyces boulardii AND ulcerative colitis' and 'Saccharomyces boulardii AND Crohn's disease' gave total a total of 80 articles. After exclusions because of irrelevance, articles in other languages and some articles that were not available, 16 articles were included in this review.

RESULTS: Three of the clinical trials showed a positive effect of S. boulardii in IBD patients (two Crohn's disease, one ulcerative colitis), while there was one trial that didn't prove any effect (Crohn's disease). Included Animal trials and cell assays describes different anti-inflammatory mechanisms of S. boulardii supporting a possible effect when treating IBD patients.

DISCUSSION: The number of studies of S. boulardii as treatment for IBD is limited. Furthermore, the existing trials have small populations and short duration.

CONCLUSION: We do not have enough evidence to prove the effect of S. boulardii in IBD. Saccharomyces boulardii is, however, a plausible treatment option in the future, but more placebo-controlled clinical studies on both patients with ulcerative colitis and Crohn's disease are needed.

KEYWORDS: ; Crohn's disease; inflammatory bowel disease; ulcerative colitis

PMID: 29771163 DOI: 10.1080/08923973.2018.1469143

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Probiotics

- Anecdotal clinical benefit:
  - High-dose, multi-strain forms - up to 450 billion CFUs qd
  - Saccharomyces Boulardii - up to 10 billion CFU BID
  - Probiotic-rich foods
    - Sauerkraut juice - 1 tsp to 1 Tbs 1-3 times per day
    - Lactose-free yogurt or kefir

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Bovine Immunoglobulin therapy

- Colostrum - milk-derived
  - 5-20 grams daily - standardization matters (look for 40% IgG)
  - Research is mixed with small poorly designed human trials
  - Contamination with lactose, casein, and whey is concern
- Bovine serum-derived immunoglobulins - ImmunoLin
  - 2.5 grams BID x 4-6 weeks (up to 10 g qd)
  - Studied in RCT (N=66) on IBS-D with good benefit in stool changes, abdominal discomfort, bloating, etc.

Petschow, et. al. 2014. *Clin Exp Gastroenterol.*

Colostrum

Front Biosci (Schol Ed). 2016 Jun 1;8:331-51.

Potential benefits of colostrum in gastrointestinal diseases.

Menchetti L[1], Traina G[2], Tomasello G[3], Casagrande-Proietti P[1], Leonardi L[1], Barbato O[1], Brecchia G[4].

Author information

Abstract

This paper reviews the composition of colostrum and the potential preventive and therapeutic use of this "first milk" for treating various gastrointestinal disorders in humans. Colostrum is a complex biological liquid that is richer in antimicrobial peptides, immune-regulating compounds and growth factors than the subsequent mature milk. The main functions of colostrum are to provide essential nutritional components, strengthen the natural defense system, modulate immune response, balance intestinal microbiota and enhance the growth and repair of several tissues. Several studies and clinical trials carried out both in vitro and in vivo on humans and animals suggest the clinical benefits of bovine colostrum (BC) supplementation in gastro-intestinal diseases. Despite the encouraging results, further well-designed studies are required in order to confirm these effects, the dose and duration of treatment. Colostrum is safe since there are no contraindications regarding high dose levels and few side effects of clinical relevance have been reported. In conclusion, in the near future, colostrum-based supplements may play a complementary role to synthetic drugs in the prevention and treatment of various gastrointestinal disorders.

PMID: 27100711

Nutraceuticals

- Address nutritional deficiencies from chronic, malabsorptive diarrhea
    - Screen your patients and closely monitor!
- Electrolyte replacement
- Liquid/powdered single & multivitamins
    - Methotrexate, Sulfasalazine can cause folate deficiency
    - 1mg folate qd for protection against CRC in pancolitis patients
- Protein supplementation via shakes

Low-dose naltrexone in IBD - research summary

- 2007 Pilot study in patients with CD showed a positive effect of LDN therapy
  - 15 of 17 patients demonstrated a clinical response (Smith, et al. 2007)
- 2011 RCT (N=34) response rate of 88% in the LDN group vs 40% in the placebo group (Smith, et al. 2011)
  - 12 weeks of therapy
- 2013 study demonstrated as safe in pediatric IBD patients (Smith, et al. 2013)
  - Significantly reduced PCDAI scores
  - 25% of patients achieving remission and 67% showing improvement of disease
- 2018 study in refractory IBD patients (N=47) - LDN x 12 weeks (Lie, et al. 2018)

Low-dose naltrexone in IBD

J Crohns Colitis. 2018 May 25;12(6):677-686. doi: 10.1093/ecco-jcc/jjy008.

The Effect of Low-Dose Naltrexone on Medication in Inflammatory Bowel Disease: A Quasi Experimental Before-and-After Prescription Database Study.

Raknes G[1,2], Simonsen P[3], Småbrekke L[4].

Author information

Abstract

BACKGROUND AND AIMS: Low-dose naltrexone [LDN] is a controversial off-label treatment used by many Crohn's disease [CD] and ulcerative colitis [UC] patients. A small number of preliminary studies indicate that LDN might be beneficial in CD, but evidence is too scarce to demonstrate efficacy. We sought to examine whether initiation of LDN therapy by patients with inflammatory bowel disease [IBD] was followed by changes in dispensing of relevant medication.

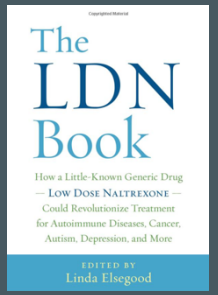
METHODS: We performed a quasi-experimental before-and-after study following a sudden increase in LDN use in the Norwegian population in 2013. IBD patients were identified from among all the patients who had at least one LDN prescription recorded in the Norwegian Prescription Database [NorPD] in 2013. Drug dispensing 2 years before and after the first LDN prescription was compared.

RESULTS : We identified 582 IBD patients who had received LDN. Of the 256 patients who became persistent LDN users, there were reductions in the number of users for [i] all examined drugs [-12%], [ii] intestinal anti-inflammatory agents [-17%], [iii] other immunosuppressants [-29%], [iv] intestinal corticosteroids [-32%] and [v] aminosalicylates [-17%]. In subgroups of identified CD and UC patients, there were significant reductions in the number of users of intestinal corticosteroids [CD: -44%, UC: -53%] and systemic corticosteroids [UC: -24%]. No significant differences in cumulative defined daily doses were observed.

CONCLUSIONS : Our findings imply that the initiation of LDN in IBD is followed by reduced dispensing of several drugs considered essential in the treatment of CD and UC.

PMID: 29385430 PMCID: PMC5972567 DOI: 10.1093/ecco-jcc/jjy008

Low-dose naltrexone in MC



- Naltrexone 1.5 - 4.5mg once daily
  - Compounded as commercially available formulas are 50-100mg/capsule
  - Start with 1.5 mg and increase every 7-14 days by 1.5 mg to max dose of 4.5mg nightly
  - Can increase immediately to full dose and no need to wean off
  - Main adverse effects - restless sleep and vivid dreams
    - Minimize by titrating slowly, taking earlier in day, or in the morning
    - Some studies demonstrated increased LFTs
  - Contraindicated with concomitant use of opiates - avoid day before and the day of the use of any narcotics
    - CAN PRECIPITATE IMMEDIATE WITHDRAWAL

MEGAN TAYLOR, ND
NATUROPATHIC DOCTOR

FMT effective in IBD!

Biomed Res Int. 2018 Sep 13;2018:8941340. doi: 10.1155/2018/8941340. eCollection 2018.

Protocol for Fecal Microbiota Transplantation in Inflammatory Bowel Disease: A Systematic Review and Meta-Analysis.

Fang H[1], Fu L[1], Wang J[2].

Author information

Abstract

BACKGROUND: Fecal microbiota transplantation (FMT) is an emerging treatment approach for inflammatory bowel disease (IBD). The donor selection, the separation of fecal bacteria, the frequency of FMT, the way of infusion, the long-term safety, and efficacy are still uncertain.

AIM: To further study the efficacy and safety and protocol of FMT for IBD.

METHODS: A systematic review and meta-analysis were conducted until February, 2018. Clinical remission was established as the primary outcome.

RESULTS: A total of 596 paediatric and adult IBD patients were enrolled, and 459 patients received FMT therapy. 28.8% (132/459) patients achieved clinical remission during follow-up. 53% (241/459) patients achieved clinical response. The pooled estimated clinical remission for ulcerative colitis (UC) was 21% (95% CI: 8%-37%) and 30% (95% CI: 11%-52%) for Crohn's disease (CD), both with a risk of heterogeneity; 10% (95% CI: 0%-43%) for paediatric UC; 26% (95% CI: 10%-48%) for adult UC; 45% for paediatric CD (95% CI: 24%-66%); 22% (95% CI: 3%-52%) for adult CD. Meta-analysis of cohort studies showed that moderate-severe IBD patients could achieve more significant remission from FMT than mild-moderate patients (P=0.037). Delivery route has no impact on the efficacy of FMT in UC and CD. Based on current available evidence, a trend was observed towards higher clinical remission rate of frozen stool FMT than that of fresh stool for UC, while there was no significant difference between fresh and frozen FMT for CD. The optimal donor stool for FMT is still uncertain. Meta-analysis of RCTs showed that FMT treatment achieved significantly higher clinical remission rate than placebo for UC (28% versus 9%, P=0.0003).

CONCLUSION: FMT is an effective and safe therapy for both paediatric and adult IBD; fresh or frozen donor stool, delivery route, and antibiotic pretreatment or not have no impact on the efficacy of FMT in IBD. FMT might be a potential rescue therapy and even an initial standardized therapy for IBD. However, few data exist on long-term safety and efficacy and further validation is needed.

PMID: 30302341 PMCID: PMC6158944 DOI: 10.1155/2018/8941340

[Indexed for MEDLINE] Free PMC Article

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NATUROPATHIC DOCTOR

Or not…?

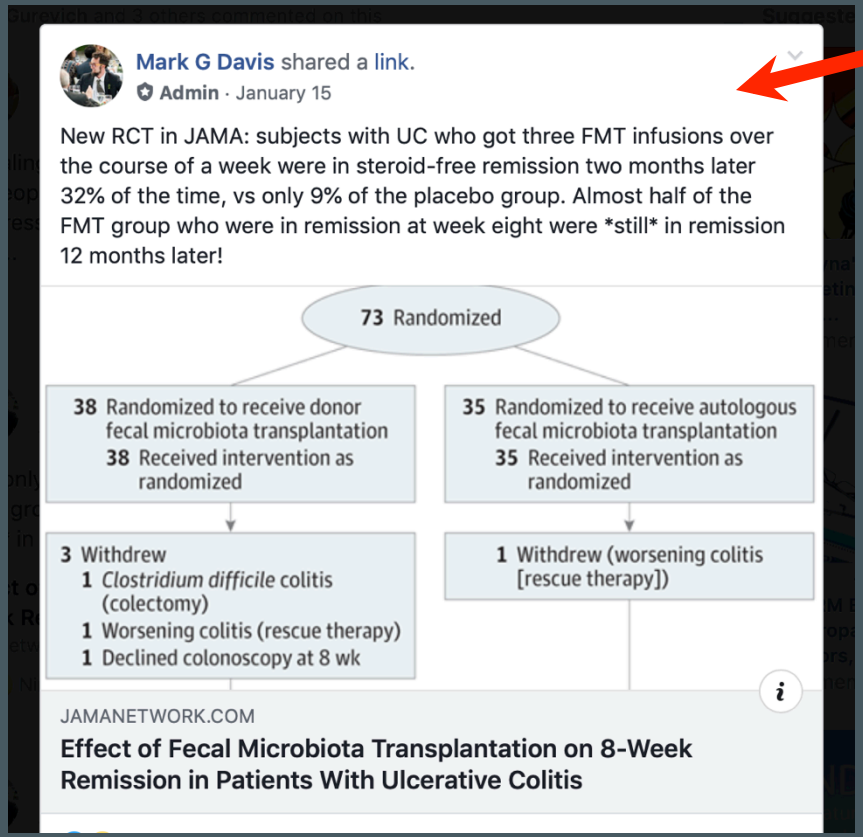
- Nov 2018 Cochrane Review:

Fecal microbiota transplantation may increase the proportion of participants achieving clinical remission in UC. However, the number of identified studies was small and the quality of evidence was low. There is uncertainty about the rate of serious adverse events. As a result, no solid conclusions can be drawn at this time. Additional high-quality studies are needed to further define the optimal parameters of FMT in terms of route, frequency, volume, preparation, type of donor and the type and disease severity. ***No studies assessed efficacy of FMT for induction of remission in CD*** or in pediatric participants. In addition, no studies assessed long-term maintenance of remission in UC or CD. ***Future studies are needed to address the therapeutic benefit of FMT in CD and the long-term FMT-mediated maintenance of remission in UC or CD.***

Imdad, et al. 2018. *Cochrane Review*.

FMT - Promising recent trial...

The type of high-quality heads up you get on the private GastroANP forum:)



Costello, et. al. 2019. *JAMA.*

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NATUROPATHIC DOCTOR

Other potentially beneficial approaches...

- Hydrolyzed white fish protein
  - Especially useful for low weight IBD patients
  - Freeze pills for greater tolerance
- Glutamine
- Rectal ozone
  - Especially useful for L sided or proctosigmoiditis
  - Nan Fang Yi Ke Da Xue Xue Bao. 2010 Dec;30(12):2683-5.
- HBOT
  - Studied mostly in medically refractory cases
  - Aliment Pharmacol Ther. 2014 Jun;39(11):1266-75. doi: 10.1111/apt.12753. Epub 2014 Apr 16.

My common supplementation protocol in IBD

- Vitamin D
- Omega 3s - 3-5 grams daily
- Curcumin - 1 gram twice daily
  - or ECGC
  - or Proanthocyanin extracts (UC)
  - or Artemisia absinthium (CD)
- Low dose naltrexone
  - or CBD
- Diarrhea → add in serum bovine immunoglobulins

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Monitoring

- Ensure adequate clinical remission using symptom scores AND/OR labs (CRP, calprotectin)
  - Microscopic Colitis Disease Activity Index - youtube video
  - Crohn's Disease Activity Index (CDAI) - MDCalc
  - Mayo Score/Disease Activity Index for UC - MDCalc
- Monitor for dehydration, electrolyte disturbances, and malabsorption
- Ensure adequate nutritional status and weight
- Regular endoscopic evaluation per GI Specialist, except MC

Clinical Case: 47 yo F - Adjunctive Naturopathic Tx

6/27/2019

Following 1 month of budesonide therapy, + Rifaximin (2nd course)

- Stools better, though not quite normal
- Nausea and abdominal bloating resolved
- Appetite improved, weight stable
- Energy improved, back at work

RECOMMENDATIONS:

- Low dose naltrexone cross taper with budesonide
- Continued monitoring of electrolytes, nutritional status, weight

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Follow-up & Prevention

Monitoring for AE of pharmacologic therapies:

- Mesalamine → regular renal function
- Sulfasalazine → regular CBC, liver function
- Oral corticosteroid use → bone densitometry for prolonged use
  - 5mg prednisone (or equivalent) > 3 months
- Biologics → yearly skin checks, cervical cancer screening
  - Consider immune supportive therapies if chronic infections
  - AVOID d/c medications, if possible

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NATUROPATHIC DOCTOR

Other considerations

- Depression screening - all IBD patients
- Immunosuppressed patients - AVOID live vaccines

Clinical Case: 47 yo F - Most recent f/u

8/16/2019

Following 3 month of budesonide therapy, + LDN 3.0mg qhs

- Symptoms entirely resolved
- Gaining weight

RECOMMENDATIONS:

- LDN - increase to 4.5mg nightly
- Complete budesonide taper
- Supplement regimen, healthful eating habits

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NATUROPATHIC DOCTOR

Disease flare? What to do.

- Confirm that this is truly an IBD flare
  - Labs, referral for endoscopy
- Determine *“What has changed?”*
  - Recent infections, physical or psychological stress
  - Recent discontinuation or change in protocol (“*When did you stop your LDN?*”)
  - Changes in diet
- Simplify Diet
  - Consider SCD or GAPS intro
- Employ previously well-tolerated therapies
  - High dose probiotics
  - High dose anti-inflammatory botanicals
  - Rectal ozone for proctitis flares
- Refer for PHARMACOLOGIC intervention as appropriate

MEGAN TAYLOR, ND
NATUROPATHIC DOCTOR

Summary

- Naturopathic medicine can help to minimize flares, maintain remission, and improve treatment efficacy
- ALWAYS have a GI Specialist on board
- DO NOT take IBD patients off of their medications without consult with GI Specialist
- Be actively involved in monitoring disease activity/remission
- Find a DOABLE approach for your patient that combines lifestyle + dietary interventions + appropriate (& minimal) supplementation
- Be an advocate for patients to ensure they are being monitored for pharm-induced AEs and receiving appropriate screening tests

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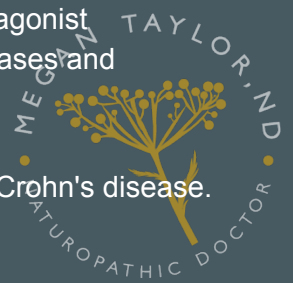

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