Update on Nutrition in Inflammatory Bowel Disease

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October 17, 2020
No Disclosures

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Inflammatory Bowel Disease
Inflammatory bowel disease

Irritable bowel syndrome

Inflammation

Motility

Visceral hypersensitivity
May 2020

New Expert Guidelines

- Why Nutrition in IBD?
- Effective Dietary Options
- Role of Supplements
55 yo woman with UC in remission
“What is the best diet for my IBD?”
6.8 Million people with IBD worldwide
“unhealthy” Western Diets

Unhealthy Western Diet
- High saturated fat
- Low fiber
- Refined sugars
- Additives

Healthy Western Diet
??
IBD Pathogenesis

163 genes

Protective
Aggressive

Innate and adaptive

Diet
Infection
Smoking
NSAIDS
Stress

Nature Clinical Practice Gastroenterology & Hepatology, 2006
Mucus and Mucosal barrier
4 Clinical Questions

1. Undernourished
2. Remission
3. Stricture/Obstruction
4. Co-morbid lactose intolerance or IBS
Nutrition Strategies Overview

+ Undernutrition
  - Active disease
  - Remission
    - Enteral or Parental
      - Increase Calorie Intake
        - Enteral (supplemental only) or Parental

- Undernutrition
  - Active disease
  - Remission

Non-stricturing
  - SCD
  - IBD-AID
  - Mediterranean
  - Crohn’s Elimination
  - IOIBD

Low Fodmap
  - Lactose Free

*indication for parental nutrition: short bowel, obstruction intolerance po, preoperatively

Stricturing
  - Low insoluble fiber
Diets which claim to improve IBD

Most restrictive

- Refined
- Processed
- Soy
- Lactose
- Sugar
- Grains
- Certain vegetables

Least restrictive

Specific Carbohydrate Diet
Diets which claim to improve IBD

Most restrictive

Specific Carbohydrate Diet

IBD-AID
3 phases
Adapted from SCD
+probiotics
+prebiotics

Least restrictive

Prebiotics and Probiotics
What's the difference?

Prebiotics
"Foods for probiotics"
Asparagus, Garlic, Wheat bran/flour

Probiotics
"Good bacteria"
Yogurt, Sour cream, Kefir, Probiotic milk

http://recoveryourhealthtoday.com/prebiotic-foods/
Diets which claim to improve IBD

Most restrictive

- Specific Carbohydrate Diet
- IBD-AID
- Crohn’s Disease Exclusion Diet

3 phase
Whole Foods
+partial enteral nutrition

Least restrictive

https://alfa.saddleback.edu/data/enteral-feedings
Diets which claim to improve IBD

Most restrictive

Specific Carbohydrate Diet

IBD-AID

Crohn’s Exclusion Diet

Mediterranean Diet

Least restrictive

Veg

Fruit

Legumes

Cereal

Nuts

Unsaturated fats

Fish

Dairy

Wine

Saturated fats

Meat

Sweets
Dietary Guidance From the International Organization for the Study of Inflammatory Bowel Diseases

Arie Levine,*a Jonathan M. Rhodes,*a James O. Lindsay,*a Maria T. Abreu,*a Michael A. Kamm,*a Peter R. Gibson,*a Christoph Gasche,**a Mark S. Silverberg,**a Uma Mahadevan,**a Rotem Sigall Boneh,* Eyton Wine,**a Oriana M. Damas,**a Graeme Syme,**a Gina L. Trakman,**a Chu Kiong Yao,* Stefanie Stockhamer,**a Mohammad B. Hammami,**a Luis C. Garces,**a Gerhard Rogler,**a Ioannis E. Koutroubakis,**a Ashwin N. Ananthakrishnan,**a Liam McKeever,**a and James D. Lewis*a
No Consensus

- Pasteurized Dairy
Insufficient Evidence to Recommend Reduced Consumption

- Refined sugars/carbohydrates
- Wheat/gluten
- Alcohol
  - For ‘low-level’ consumption
IBD Dietary Recommendations

**Crohn’s recommendations**
- Vegetables
- Fruits
- Omega 3 oils from fish and food

**Ulcerative colitis recommendations**
- Red meat, processed meats
- Dairy fat, palm and coconut oil
- Saturated and trans fat
- Emulsifiers
- Carrageenans
- Artificial sweeteners
- Maltodextrins
- Titanium dioxide

Prudent to increase foods containing:
- Saturated and trans fat
- Emulsifiers
- Carrageenans
- Artificial sweeteners
- Maltodextrins
- Titanium dioxide

Prudent to decrease foods containing:
- Vegetables
- Fruits
Fruits/Vegetables

- **Theory:**

- **Evidence: Epidemiology and Clinical Studies**

- **Recommendation:**
  - CD: prudent to recommend moderate to high consumption of fiber (EL low); restrict insoluble fiber stricturing disease
  - UC: insufficient evidence to recommend any change (EL very low)

https://doi.org/10.1016/j.pharmthera.2016.04.007
Meat

Theory:

Evidence: some small studies associate risk of relapse with red meat intake, evidence varies, depending on type of meat, poultry and eggs

Recommendation:

- CD: unnecessary to restrict unprocessed red meat, lean chicken and eggs (EL high)
- UC: prudent to reduce intake of red and processed meat (EL low)
Fats

- Theory: possible pro and anti-inflammatory effects

- Evidence:
  - Monounsaturated (olive oil), n-3 PUFA (salmon) → may reduce relapse and inflammation
  - Trans-fats: weak evidence, but likely other poor health effects
  - Total fat: animal fat/processed meat, inconsistent
  - Saturated fats: myristic acid (coconut, palm oil, dairy products)

- Recommendation:
  - CD: Prudent to reduce saturated fats (EL low) and avoid trans fats (EL very low)
  - UC: Prudent to reduce myristic acid (EL low) and avoid trans fats (EL very low); prudent to increase dietary omega-3 but not supplements
Food additives/Artificial Sweeteners

- Theory: increased consumption of artificial sweeteners emulsifier use parallels increased incidence of IBD (correlation).

- Evidence: animal models

- Recommendation:
  - CD and UC: prudent to limit/reduce maltodextrin-containing foods and artificial sweeteners, and processed foods with carrageenan, carboxymethylcellulose, and polysorbate-80 (EL very low)
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Exceptions

1. Undernourished
2. Not in Remission
3. Obstruction/Stricture
4. Absorption
Low FODMAP diet in IBD does not effect inflammation

May help if +IBS
“What about supplements?”
Supplements

- MVI: best to address underlying disease
- Pre and Pro biotics: more evidence needed
- Turmeric and Ginger: may be promising, more evidence needed
- Omega-3 fatty acid: no role for supplementation, yes from diet in UC
Health Equity
Aged 45 years or older
Hispanic or non-Hispanic white
With less than a high school level of education
Not currently employed
Born in the United States (compared with adults born outside of the United States)
Living in poverty
Living in suburban areas
Practice Pearls

• Mediterranean diet is reasonable
• Supplements are usually not necessary
• Need better evidence
• Utilize team-based approach when available, especially with elimination/more restrictive diets
Thank you
References


References (cont)


20 Kaplan GG, Ng SC. Understanding and Preventing the Global Increase of Inflammatory Bowel Disease. *Gastroenterology* 2017;152:313-321.e2. doi:10.1053/j.gastro.2016.10.020
