How to optimise your patients' GIT wellness

Presenter- Adam Rigby

Presented by Adam Rigby

BHSc Nutritional Medicine Post Grad Cert. Higher Ed.

Adam began his working life as a Chef, then developed a passion for Nutrition and Nutritional Biochemistry. After graduating from Endeavour College, he set up his own Clinical Nutrition practice, specialising in digestion and working extensively with individualised diets.

He spent time as a lecturer at Endeavour College lecturing in Advanced Nutrition and Dietary Planning and Tutoring Naturopathic and Nutritional Clinical students. He has worked extensively with sports supplements and run lectures in Sports Nutrition to practitioners and athletes.

Adam has a unique approach to presenting and simplifies the complexity of anatomy, physiology and biochemistry. His down-to-earth style and deep knowledge of the content he is presenting helps those who listen to him walk away with practical tools that can be used straight away in clinic. He believes that digestion is the key to wellness and by understanding the root cause of disease you can help people reach their wellness potential.

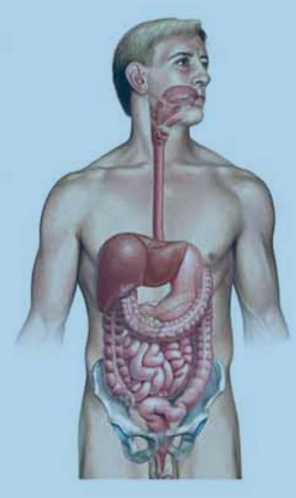
WHAT WE WILL COVER

- OVERVIEW OF BIOLOGY & BIOCHEMISTRY
- CLINICAL APPROACHES TO DIET AND LIFESTYLE
- DEEP DIVE INTO MICRONUTRIENTS AND PHYTONUTRIENTS

rn labs

MOUTH

- Salivary Amylase
- Lingual Lipase



rn labs

STOMACH

- HCl pH 2
- Pepsin Lipase 3.5pH
- CHO digestion dormant

GASTRIC EMPTYING

- Empties 2-5ml every 30 seconds
- Fat
- Fibre

SMALL INTESTINE

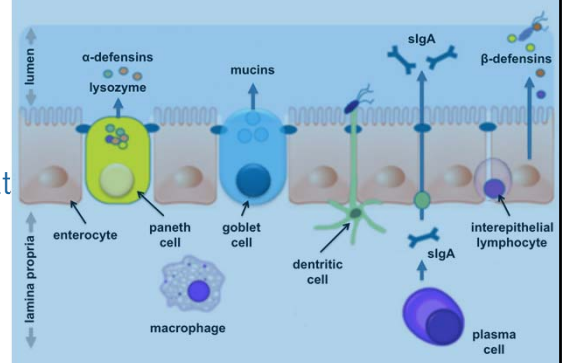
- Secretin, Cholecystokinin, Gastric inhibitory Peptide
- Protease, Amylase, Lipase, Elastase
- Na/K transporters Amino Acids & glucose
- Lipids diffuse

LARGE INTESTINE

- Electrolytes
- Water
- Fermentation fibre, Short Chain Fatty Acids
- Butyrate, Propionate, Acetate

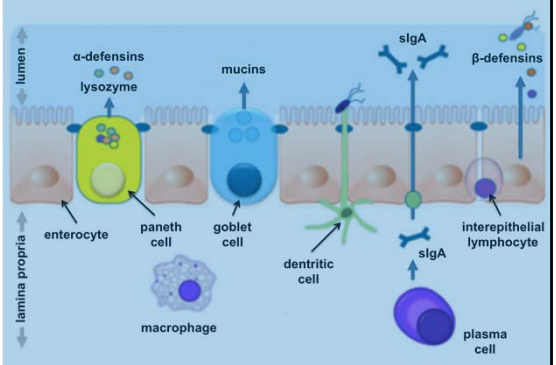
MUCOSAL BARRIER PROTECTION

- Mucous-Prostaglandins, Mucins, Bicarbonat
- Secretory IGA



MUCOSAL BARRIER PROTECTION

- Transforming Growth Factor–beta
- GALT: T Cells & Natural Killer Cells
- Peyers Patches: T & B Cells & Macrophages



FACTORS INHIBITING EFFECTIVE DIGESTION

- Stress-Sympathetic Nervous System
- Dysbiosis
- Inflammation N-F Kappa B, TNF-a, Il, IFN

DIETARY & LIFESTYLE INTERVENTIONS

- Maximise Parasympathetic Nervous System state vs Sympathetic Nervous System state
- Minimize caffeine 1-2 hours before meals

DIETARY & LIFESTYLE INTERVENTIONS

- Eliminate Fluid 30 min before and 1 hour after meals
- Avoid combining Protein/Fat with complex CHO/fibre

rn labs

DIETARY & LIFESTYLE INTERVENTIONS

- Consider cooking methods
  - Slow cooked
  - Fermented
- Simplify combinations of foods

rn labs

AMLA-EMBLICA OFFICINALIS

- Polyphenol Gallic Acid increases mucin and mucous secretion
- Study 68 pts GERD 4 week randomised trial
- Control group received 2 X 500mg BD
- Significant reduction in heartburn and regurgitation frequency and severity

AMLA-EMBLICA OFFICINALIS

- Tannin Emblicanin A 10 X more potent than vitamin C
- SOD GSH
- Anti H Pylori
- Gastroprotective in Peptic Ulceration Studies

AMLA-EMBLICA OFFICINALIS

- Numerous studies exhibited antimicrobial activity against 345 bacteria's
- Inhibits adhesion of Candida Albicans
- May modulate transit time

ARABINOGALACTAN LARCH

- Immune activation of GALT via TGF-B
- NK Cells and Macrophages
- Increase diversity

rn labs

GLUTAMINE

Increases levels of Secretory IgA and TGF-B

rn labs

GLUTAMINE

Epithelial cell proliferation and differentiation

Decreases intestinal permeability

Anti inflammatory

rn labs

ZINC CARNOSINE

Clinical study using Zinc Carnosine on
258 peptic ulcer pts double blind random crossover trial

Patient self reported symptom reduction		
	4 weeks	8 weeks
Cetraxate HCL 800mg	61% sx reduction	72% sx reduction
Zinc Carnosine 150mg	61% sx reduction	75% sx reduction
Endoscopy cure rate		
	4 weeks	8 weeks
Cetraxate HCL 800mg	16% cure rate	46% cure rate
Zinc Carnosine 150mg	26% cure rate	60% cure rate

rn labs

ZINC CARNOSINE

- Antioxidant- SOD
- Dose- research is all based on a minimum dose 75mg at least once per day.
- Combination superior to isolated

PECTIN

Research comparing whole apple vs apple pectin

Both groups reduced pH

Pectin significant increases in butyrate levels

Apple- Lactobacillus

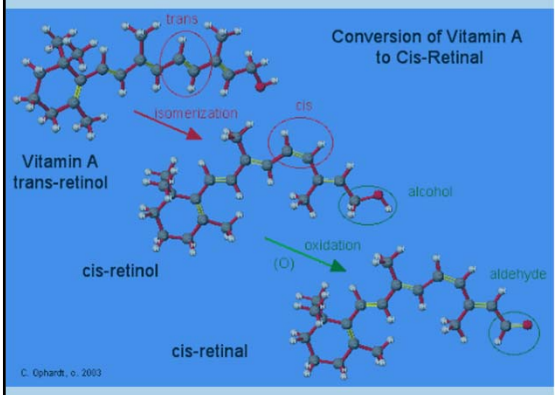
Pectin- Bifidobacteria

REVIEW

Consider in combination the micronutrients we have covered so far have demonstrated:

- Increased mucous and mucosal protection
- Anti Oxidant
- Increased SIgA
- Increased GALT NKCs, Macrophages
- Increase SCFA production butyrate propionate
- Increased diversity lactobacillus and bifidobacteria
- Repair of epithelium

J OXWDP IQH
SHFWIQ
]IQF#FDUQRVIQH
ODUFK#ÐUDEIQRJDODFWDQ
DP OD0HP EIQIFD#R IIIFIQDOV



VITAMIN A

- Increases SIgA and TGF-B
- T cell response
- Anti inflammatory

CURCUMIN

- Numerous studies significantly reduces Inflammation N-F Kappa B, TNF-a, Il1, Il6, IFN, COX2
- Modulate Th1 cell response
- Antioxidant ROS

CURCUMIN

Unstable in the pH of the intestine
Many early studies high levels of excretion and poor absorption
Phytosome concept dietary curcumin prepared with fat
Emulsification binds curcumin to cellulose and lecithin
Increases stability in the intestine
Numerous studies demonstrate Meriva has superior absorption

KEY TAKE AWAYS

Effective digestion inhibited by stress dysbiosis and inflammation
Consider macronutrient choices and fluid intake to maximise digestion
Consider synergistic micronutrients

Thank you!

rn labs

References

References

1. Groff & Gropper. Advanced Nutrition and Human Metabolism
2. 2013 - Corthesy B. Multi-faceted functions of secretory IgA at mucosal surfaces. *Front Immunol* (2013) 4:185. doi:10.3389/fimmu.2013.00185
3. 2013 - Corthesy B. Role of secretory IgA in infection and maintenance of homeostasis. *Autoimmun Rev* (2013) 12(6):661–5. doi:10.1016/j.autrev. 2012.10.012
4. 2018 – Varnosfaderani - Efficacy and safety of Amla (Phyllanthus emblica L.) in non-erosive reflux disease- a double-blind, randomized, placebo-controlled clinical trial
5. 2017 – Yadav - Traditional knowledge to clinical trials- A review on therapeutic actions of Emblica officinalis
6. 2016 – Variya et al - Emblica officinalis (Amla)- A review for its phytochemistry, ethnomedicinal uses and medicinal potentials with respect to molecular mechanisms
7. 2020 - A Review of Zinc-L-Carnosine and Its Positive Effects on Oral Mucositis, Taste Disorders, and Gastrointestinal Disorders
8. 2013 - Itagaki et al - Efficacy of zinc carnosine enemas in patients with ulcerative colitis
9. 2016 - Ooi et al - Zinc Carnosine Inhibits Lipopolysaccharide-Induced Inflammatory Mediators
10. 2018 – Khan et al - Fruit-Derived Polysaccharides and Terpenoids: Recent Update on the Gastroprotective Effects and Mechanisms
11. 2015 – Koutsos et al - Apples and Cardiovascular Health—Is the Gut Microbiota a Core Consideration?
12. 2019 – Larsen et al - Potential of Pectins to Beneficially Modulate the Gut Microbiota Depends on Their Structural Properties
13. Wu M, Xiao H, Liu G, Chen S, Tan B, Ren W, et al. Glutamine promotes intestinal SIgA secretion through intestinal microbiota and IL-13. *Mol Nutr Food Res* (2016) 60(7):1637–48. doi:10.1002/mnfr.201600026
14. 2017 - Rao & Samak - Role of gluatime in protection of intestinal epithelial tight junctions
15. 2003 - Coeffier et al - Modulating effect of Glutamine on cytokine production by human gut
16. 2018 – Cruzat et al - Glutamine metabolism and immune function supplementation and clinical translation
17. 2019 – Burge et al - Curcumin and Intestinal Inflammatory Diseases: Molecular Mechanisms of Protection