Mangi sano e stai sano 2018

Scegliere l'alimentazione in maniera consapevole

VIALE CERTOSA - PADULA - SALA MULTIMEDIALE

3 NOVEMBRE 2018

LA NUTRIZIONE ARTIFICIALE NELLE MALATTIE INFIAMMATORIE CRONICHE INTESTINALI

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QUALCHE NUMERO….

Prevalenza della malnutrizione ospedaliera

- 30 - 50% dei pazienti ospedalizzati

  Tale condizione si aggrava durante la degenza ospedaliera stessa

- 46% pazienti medici
- 27% pazienti chirurgici
- 43% pazienti anziani
- > 40% pazienti con IBD
- Fino all'85% dei pazienti con IBD che devono essere sottoposti a chirurgia

Tran, Eur J Clin Nutr 2018

MALNUTRIZIONE

- La malnutrizione va considerata " una malattia nella malattia" in quanto è in grado di condizionare negativamente la prognosi della malattia che l'ha determinata
- La malnutrizione è la risultante di un deficit, acuto o cronico, sia di calorie sia di proteine → MALNUTRIZIONE PROTEICO-CALORICA (MPC)
- **Si associa ad un incremento della morbidità e mortalità**
- **Si associa ad un aumento delle numero di complicanze**
- **Si associa ad un'alterata qualità della vita**

NUTRIZIONE ARTIFICIALE

- NON è da considerarsi una TERAPIA EZIOLOGICA: non è infatti in grado di influire sulle cause di una malattia, ma al più sulle sue conseguenze
- NON è da considerarsi una TERAPIA SINTOMATICA, in quanto non rimuove semplicemente un sintomo, ma si sostituisce al deficit di funzione che ha originato il sintomo stesso

Via di somministrazione

- La NUTRIZIONE ENTERALE (NE) rappresenta la prima scelta in tutti i pazienti che presentino un'indicazione alla nutrizione artificiale e abbiano un intestino funzionante!

- Quando possibile, è sempre da preferire alla NUTRIZIONE PARENTERALE (NP)

Vantaggi della NE

- Facilità d'uso
- **Mantenimento del trofismo intestinale**
- Minore incidenza di complicanze (polmoniti, infezioni CVC, trombosi)
- Minore durata ospedalizzazione
- Costi

Vantaggi della NE rispetto NP

Può essere considerata Alimentazione Fisiologica

mantiene:
trofismo villi intestinali
integrità della superficie assorbente
funzione di barriera fisica

evita la traslocazione batterica

→ i nutrienti hanno azione trofica diretta, perchè inducono sollecitazioni (distensione anse, utilizzazione dei nutrienti da parte delle cellule della mucosa) che determinano liberazione di ormoni trofici

stimola:
produzione di ENTERORMONI

→ influenzano
processi secretivi enzimi digestivi,
la velocità di assorbimento
dei nutrienti

resezioni intestinali

→ stimola un' ipertrofia compensatoria dei segmenti residui

consente mantenimento
della funz. immun. dell' intestino

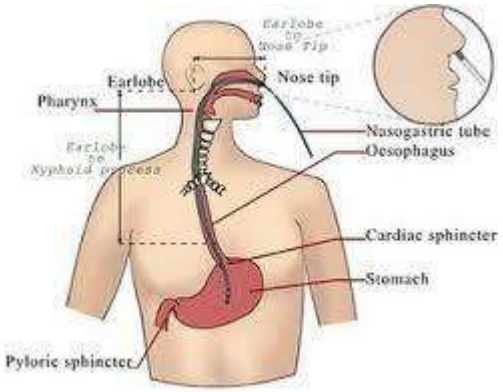
→ organo linfoide

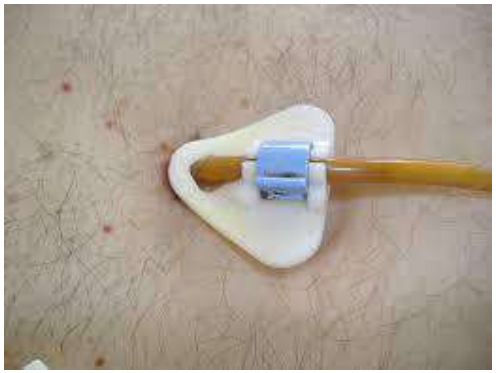
NE: controindicazioni

All types of enteral access
- Mechanical obstruction of the gastrointestinal tract
- Uncontrolled peritonitis
- Uncorrected coagulopathy or thrombocytopenia
- Bowel ischemia
- Recent gastrointestinal bleeding with high risk of recurrent bleeding (peptic ulcer disease or esophageal varices)

Nasal placement
- Basilar skull fracture: temporal, occipital, sphenoid, or ethmoid fracture
- Recent transsphenoidal surgery
- Facial, nasal, or sinus trauma
- Significant esophageal pathology: stricture, tumor, severe esophagitis
- Esophageal varices with recent banding (delay placement 72 h)

Percutaneous and surgical abdominal placement
- Massive ascites
- Hemodynamic instability
- Morbid obesity with large panniculus
- Gastric outlet or duodenal obstruction (percutaneous endoscopic or surgical gastrostomy)
- Anticipated duration less than 4 wk





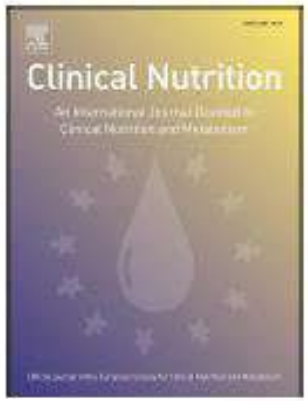
Worthington P, JPEN 2017

Stato nutrizionale nelle malattie infiammatorie croniche intestinali

- Il deficit nutrizionale è frequente nelle IBD (> 40%)
- E' stato proposto fin dagli anni 70 che la terapia nutrizionale possa migliorare l'outcome come terapia esclusiva
- E' stato suggerito che la terapia nutrizionale possa coadiuvare le terapie biologiche e migliorare l'outcome nel perioperatorio

ESPEN Guideline: Clinical Nutrition in inflammatory bowel disease

Alastair Forbes, Johanna Escher, Xavier Hébuterne, Stanisław Kłęk, Zeljko Krznaric, Stéphane Schneider, Raanan Shamir, Kalina Stardelova, Nicolette Wierdsma, Anthony E. Wiskin, Stephan C. Bischoff



Recommendation 15 B:

If oral feeding is not sufficient then tube feeding should be considered as supportive therapy. Enteral feeding using formulas or liquids should always take preference over parenteral feeding, unless it is completely contraindicated.

Grade of recommendation A – Strong consensus (100 % agreement)

Recommendation 15 C:

PN is indicated in IBD (i) when oral or tube feeding is not sufficiently possible, (e.g. when the GI tract is dysfunctional or in CD patients with short bowel), (ii) when there is an obstructed bowel where there is no possibility of placement of a feeding tube beyond the obstruction or where this has failed, or (iii) when other complications occur such as an anastomotic leak or a high output intestinal fistula.

Grade of recommendation B – Strong consensus (96 % agreement)

Forbes A , Clin Nutr 2017

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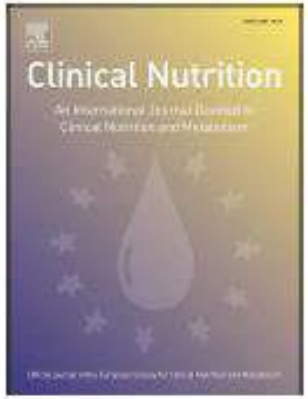


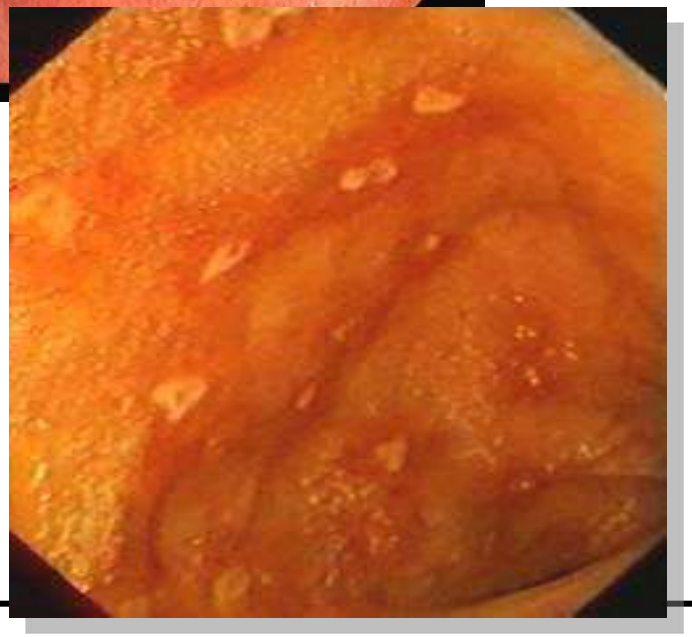
Recommendation 16:

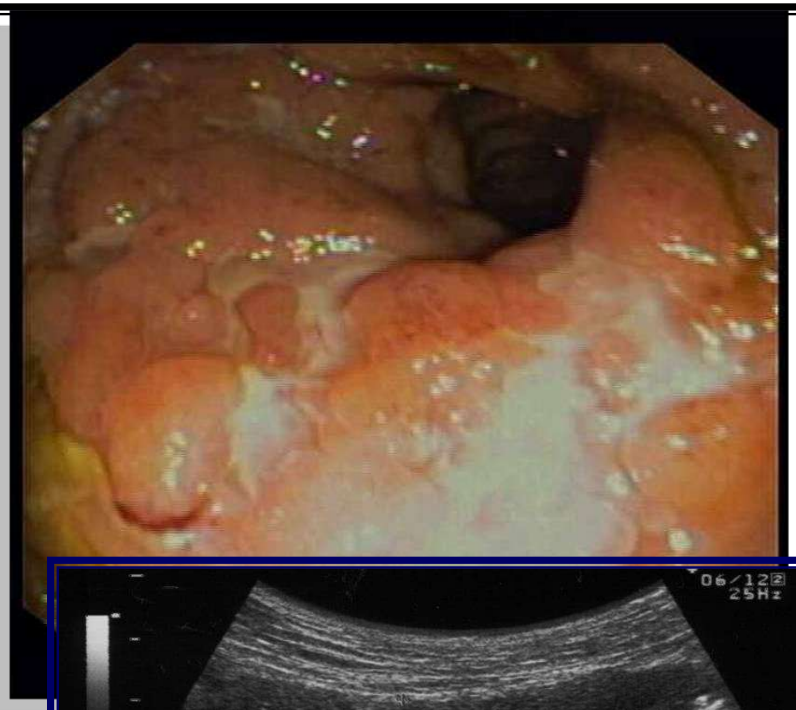
Exclusive EN is effective and is recommended as the first line of treatment to induce remission in children and adolescents with acute active CD.

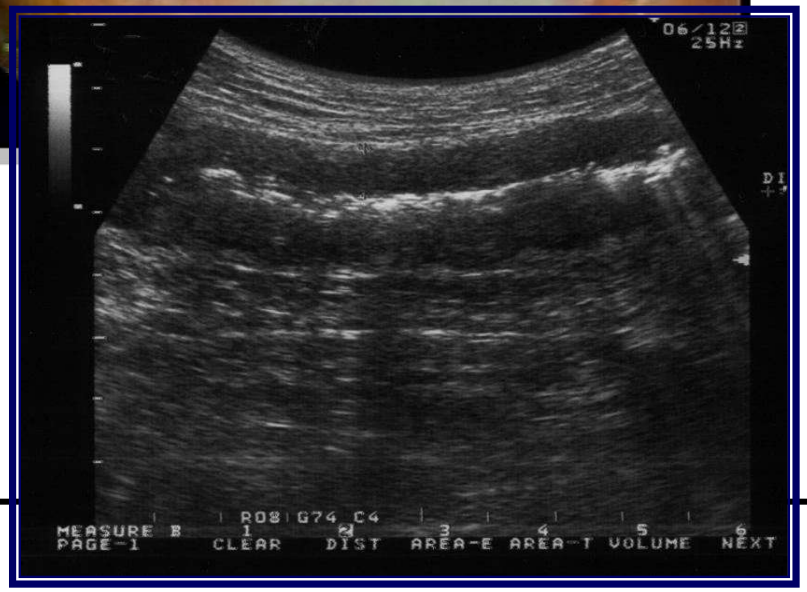
Grade of recommendation B – Strong consensus (92 % agreement)

Forbes A , Clin Nutr 2017

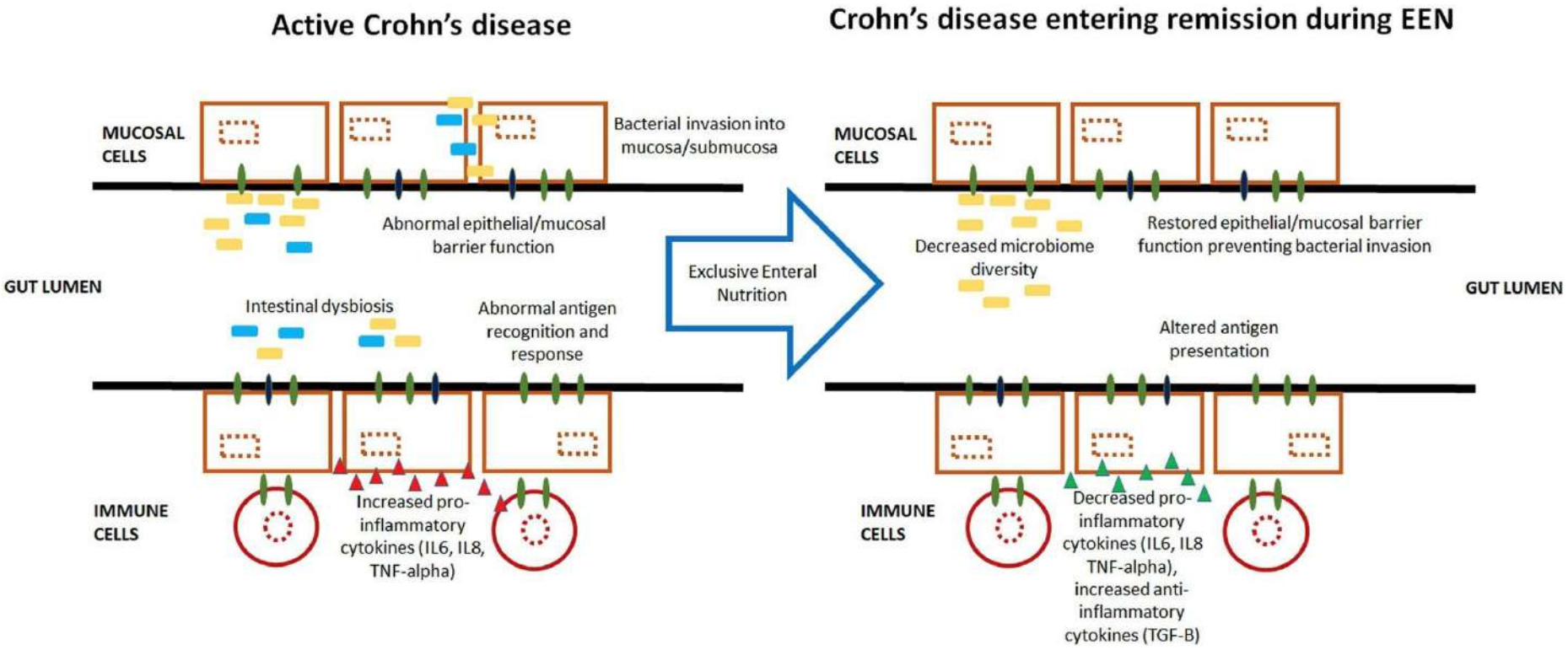
CROHN'S DISEASE







Mechanisms of action of EEN in CD



Ashton JJ , Clin Nutr 2018

Systematic review with meta-analysis: enteral nutrition therapy for the induction of remission in paediatric Crohn's disease

A. Swaminath[1] | A. Feathers[1] | A. N. Ananthakrishnan[2] | L. Falzon[3] | S. Li Ferry[4]

Aliment Pharmacol Ther. 2017;1-12.

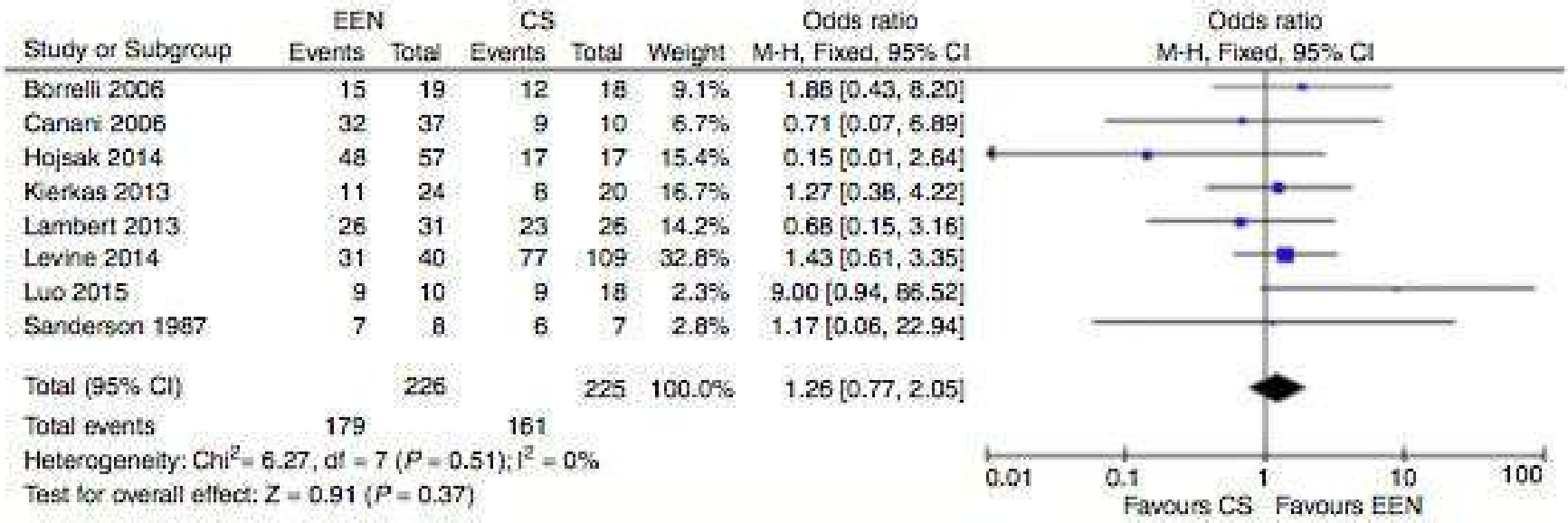


FIGURE 2 Comparison of remission induction for EEN vs CS

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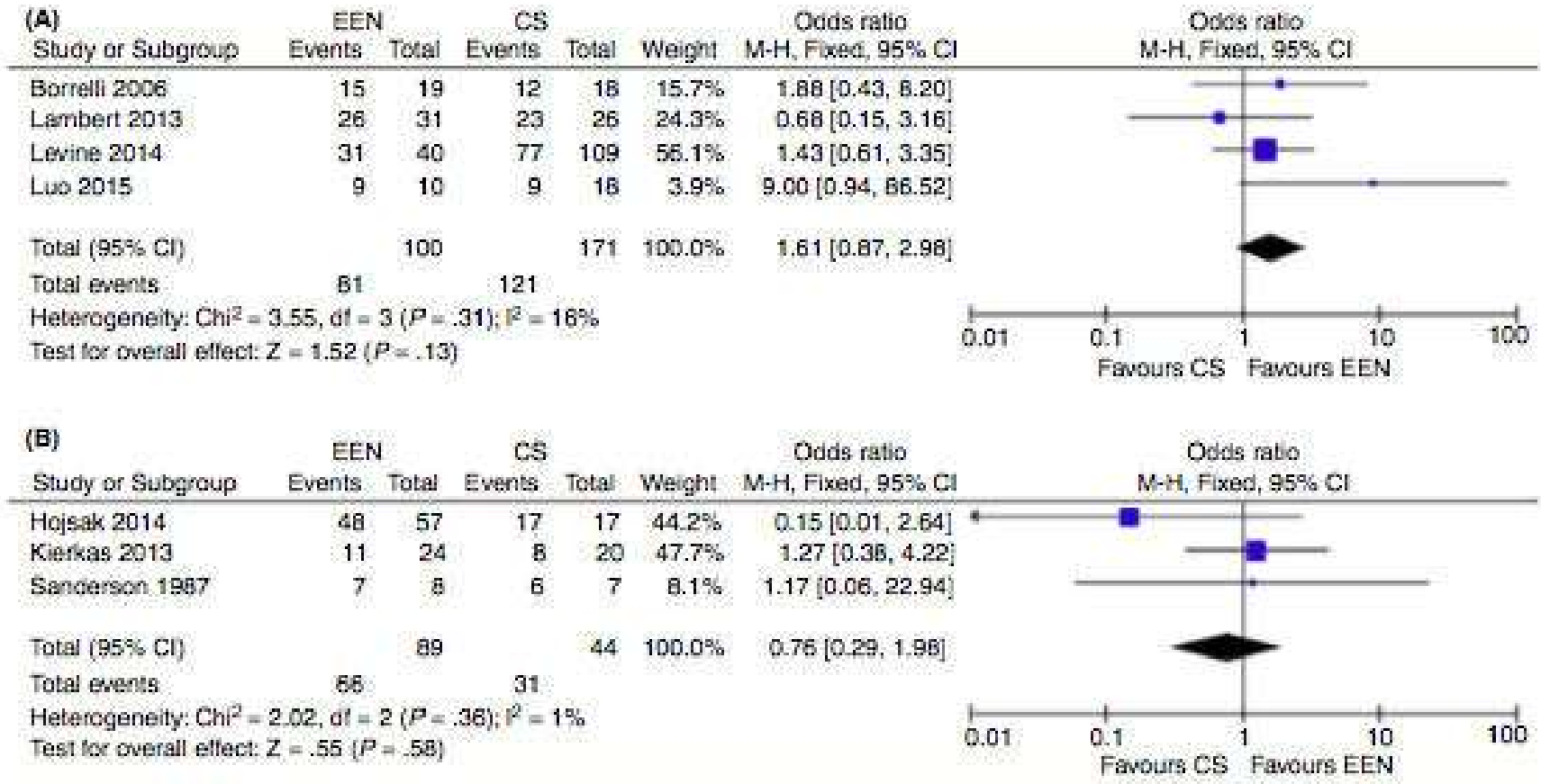

FIGURE 3 (A) Comparison of EEN vs CS in newly diagnosed patients only (B) Comparison of EEN vs CS in relapsed patients only

Enteral nutritional therapy for induction of remission in Crohn's disease

Neeraj Narula[1], Amit Dhillon[2], Dongni Zhang[3], Mary E Sherlock[4], Melody Tondeur[5], Mary Zachos[6]

Cochrane Library
Cochrane Database of Systematic Reviews

Enteral nutrition compared to corticosteroids for induction of remission in Crohn's disease

Patient or population: induction of remission in Crohn's disease
Setting:
Intervention: Enteral nutrition
Comparison: corticosteroids

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Quality of the evidence (GRADE)	Comments
	Risk with corticosteroids	Risk with Enteral nutrition				
Remission rate - ITT	715 per 1,000	551 per 1,000 (415 to 737)	RR 0.77 (0.58 to 1.03)	409 (8 RCTs)	⊕◯◯◯ VERY LOW [1,2,3]	
Remission rate - ITT adult studies	734 per 1,000	477 per 1,000 (382 to 602)	RR 0.65 (0.52 to 0.82)	352 (6 RCTs)	⊕◯◯◯ VERY LOW [4,5]	
Remission rate - ITT pediatric studies	607 per 1,000	820 per 1,000 (559 to 1,000)	RR 1.35 (0.92 to 1.97)	57 (2 RCTs)	⊕◯◯◯ VERY LOW [6,7]	
Remission rate - per-protocol - pediatric studies	607 per 1,000	868 per 1,000 (625 to 1,000)	RR 1.43 (1.03 to 1.97)	55 (2 RCTs)	⊕◯◯◯ VERY LOW [6,7]	
Adverse events	159 per 1,000	221 per 1,000 (99 to 495)	RR 1.39 (0.62 to 3.11)	389 (7 RCTs)	⊕◯◯◯ VERY LOW [8,9,10]	
Withdrawal due to adverse events	64 per 1,000	189 per 1,000 (65 to 544)	RR 2.95 (1.02 to 8.48)	169 (3 RCTs)	⊕◯◯◯ VERY LOW [11,12]	

Cochrane Database of Systematic Reviews 2018

Enteral nutritional therapy for induction of remission in Crohn's disease

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Elemental compared to non-elemental enteral feeds for induction of remission in Crohn's disease

Patient or population: induction of remission in Crohn's disease
Setting:
Intervention: Elemental
Comparison: non-elemental enteral feeds

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Quality of the evidence (GRADE)	Comments
	Risk with non-elemental enteral feeds	Risk with Elemental				
Remission rate - Intention to treat	625 per 1,000	638 per 1,000 (550 to 737)	RR 1.02 (0.88 to 1.18)	378 (11 RCTs)	⊕◯◯◯ VERY LOW [1,2]	
Adverse events	174 per 1,000	176 per 1,000 (108 to 287)	RR 1.01 (0.62 to 1.65)	323 (9 RCTs)	⊕◯◯◯ VERY LOW [3,4]	
Withdrawal due to adverse events	173 per 1,000	237 per 1,000 (143 to 389)	RR 1.37 (0.83 to 2.25)	272 (7 RCTs)	⊕◯◯◯ VERY LOW [5,6]	

Cochrane Database of Systematic Reviews 2018

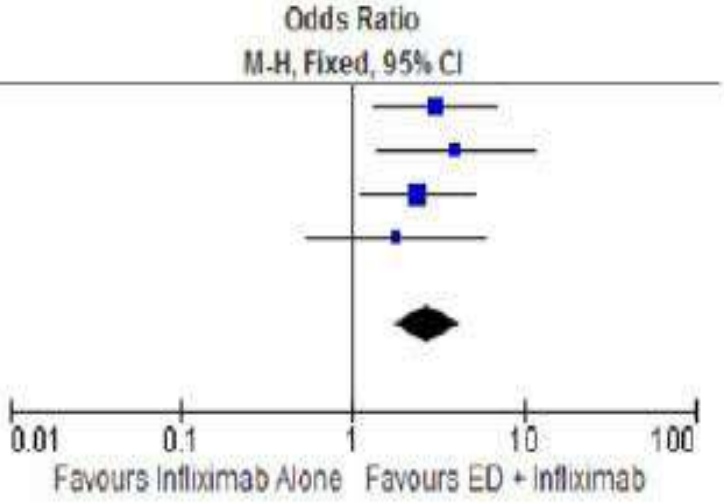
The efficacy of partial EN for the induction and maintenance of remission is still unknown

Overall clinical remission with infliximab vs infliximab plus EN in CD

Study or Subgroup	ED + Infliximab Events	Total	Infliximab Alone Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Hirai et al 2013	31	45	24	57	29.2%	3.04 [1.34, 6.92]
Sazuka et al 2012	23	29	22	45	15.8%	4.01 [1.37, 11.71]
Tanaka et al 2006	30	51	22	59	37.2%	2.40 [1.11, 5.18]
Yamamoto et al 2010	25	32	16	24	17.7%	1.79 [0.54, 5.89]
Total (95% CI)		157		185	100.0%	2.73 [1.73, 4.31]
Total events	109		84			

Heterogeneity: $Chi^2 = 1.15$, $df = 3$ ($P = 0.76$); $I^2 = 0\%$

Test for overall effect: $Z = 4.32$ ($P < 0.0001$)



Nguyen DL , Ther Adv Gastroenterol 2015

Dietary supplements for the treatment of inflammatory bowel disease

Supplement	Evidence of Efficacy
Curcumin	• In a randomized trial of 43 UC subjects, 3 g of curcumin daily was superior to placebo in the maintenance of remission • In a randomized trial of 41 UC subjects, 450 mg daily was ineffective at inducing remission • May have benefit at reducing the risk of colon cancer
Omega-3	• Inconsistent data are present for the benefit of supplementation in the induction or maintenance of remission in IBD • Currently available data do not show clear evidence of benefit from supplementation with omega-3 fatty acids for IBD
Glutamine	• There are very sparse data, which currently do not show benefit from the use of glutamine for CD
Vitamin D	• A large retrospective cohort study has shown that normalization of vitamin D reduced the risk of surgery in CD but not UC • The largest randomized trial of 1200 IU vitamin D vs placebo found no difference in relapse rate in CD
Prebiotics	• Very sparse data for CD • Fiber supplementation may help improve gastrointestinal symptoms but is currently not recommended as monotherapy for UC
Probiotics	• Ineffective for inducing remission, maintaining remission, and preventing postoperative recurrence in CD • VSL#3, a multistrain probiotic, can help induce remission in mild-moderate UC • VSL#3 helps prevent pouchitis

Limketkai PN , Gastroenterol Clin N Am 2017

Role of perioperative nutritional therapy

- Malnourished surgical patients have an increased risk for negative outcomes including infection, bacterial overgrowth, poor wound healing
- Nutrition has a role in improving outcome

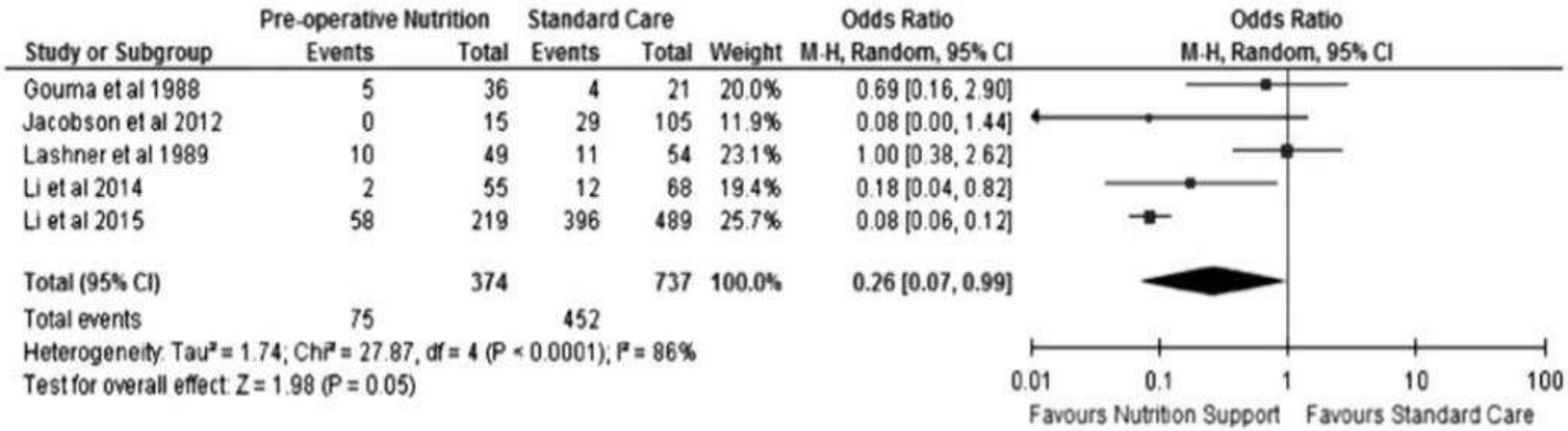
Worthington P, JPEN 2017

Fattori di rischio di morbidità post-operatoria in 130 pazienti affetti da IBD

FATTORI DI RISCHIO	ASSOCIATO A	p	ODDS RATIO	IC 95%
Diabete	Infezione della ferita chirurgica	0,016	7,462	1,147-48,535
Familiarità per MICI	Infezione della ferita chirurgica	0,001	5,223	2,411-11,317
BMI ≤ 18,5	polmonite	0,004	5,579	3,712-8,384
NPT pre-operatoria	polmonite	0,005	10,8	2,11-55,064
NPT pre-operatoria	ileo paralitico	0,002	8,667	1,964-38,246

Castiglione F Unpublished data

Role of preoperative EN and PN therapy in CD



Study or Subgroup	Pre-operative Nutrition Events	Total	Standard Care Events	Total	Weight	Odds Ratio M-H, Random, 95% CI
Gouma et al 1988	5	36	4	21	20.0%	0.69 [0.16, 2.90]
Jacobson et al 2012	0	15	29	105	11.9%	0.08 [0.00, 1.44]
Lashner et al 1989	10	49	11	54	23.1%	1.00 [0.38, 2.62]
Li et al 2014	2	55	12	68	19.4%	0.18 [0.04, 0.82]
Li et al 2015	58	219	396	489	25.7%	0.08 [0.06, 0.12]
Total (95% CI)		374		737	100.0%	0.26 [0.07, 0.99]
Total events	75		452			

Heterogeneity: $Tau^2 = 1.74$; $Chi^2 = 27.87$, df = 4 ($P < 0.0001$); $I^2 = 86\%$

Test for overall effect: $Z = 1.98$ ($P = 0.05$)

Primary analysis of preoperative enteral nutrition or total parenteral nutrition on postoperative complications compared with controls

Brennan GT, Eur J Gastroenterol Hepatol 2018

Appropriate Use of Parenteral Nutrition Through the Perioperative Period

- Lack of protocols delivery of enteral nutrition in the perioperative period should not lead to inappropriate use of parenteral nutrition
- In cases where EN is not feasible and the patient shows evidence of malnutrition, surgery should be delayed 7–10 days to provide perioperative PN.
- For patients requiring urgent surgery where EN is not feasible, the initiation of PN postoperatively should be delayed 5–7 days.

McClave SA, JPEN 2013

Conclusioni

- La nutrizionale artificiale è necessaria quando l'insufficienza intestinale non consente un adeguato assorbimento di nutrienti
- La via enterale ove possibile è la prima scelta
- La nutrizione parenterale è necessaria nell'intestinal failure (short bowel)
- La nutrizione enterale esclusiva rappresenta il trattamento di prima linea nella malattia di Crohn in età pediatrica
- L'impiego della nutrizione può potenziare l'effetto dei biologici e migliorare l'outcome chirurgico (dati da confermare!!)