

New perspectives in the treatment of *H. pylori*: the role of probiotics

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AGENDA

Update on H.pylori infection

- **Epidemiological Trends**
- **WHO/ IARC/Global Consensus Reports to eradicate H.pylori for gastric cancer prevention**

The role of probiotics in therapy of H.pylori infection

- **Probiotics in H.pylori eradication –gastric effects**
- **Protection of the intestinal microbiome, prevention of side effects**
- **Probiotic medicine an alternative to antibiotics**

GASTRODUODENAL

Global Prevalence of *Helicobacter pylori* Infection and Incidence of Gastric Cancer Between 1980 and 2022



Yi-Chu Chen,^{1,*} Peter Malfertheiner,^{2,3,*} Hao-Ting Yu,¹ Chih-Lin Kuo,¹ Yung-Yueh Chang,¹ Fan-Tsui Meng,¹ Yu-Xuan Wu,⁴ Juo-Lun Hsiao,⁵ Mei-Jyh Chen,^{6,7} Kun-Pei Lin,^{6,7,8} Chun-Ying Wu,^{9,10} Jaw-Town Lin,^{7,11} Colm O'Morain,¹² Francis Megraud,¹³ Wen-Chung Lee,^{1,§} Emad M. El-Omar,^{14,§} Ming-Shiang Wu,^{6,§} and Jyh-Ming Liou^{6,7,15,*}



□ global crude prevalence of *H pylori* infection decreased

- 52.6% before 1990
- 43.9% during 2015 to 2022 in adults

❖ **but still as high as 35.1% in children/adolescents during 2015 to 2022**

H.pylori prevalence in the adult population in Europe

Region/country	HDI	Adults	
	2019 rank	Latest <i>HP</i> prevalence, % (95% CI)	Studies (n)
Greece	High	45.2 (28.9–57.0)	1
Hungary	High	32.1 (29.2–67.8)	1
Iceland	Very high	22.5 (19.4–21.2)	1
Israel	Very high	45.6 (28.7–40.7)	5
Italy	High	29.1 (25.2–91.2)	13
Latvia	High	55.4 (53.1–84.4)	1
Lithuania	High	26.2 (19.2–56.8)	2
Netherlands	Very high	23.7 (12.2–87.5)	2
Norway	Very high	32.9 (31.2–61.3) ^a	2
Poland	High	60.2 (44.3–44.8) ^a	8
Portugal	High	49.7 (42.8–43.1)	2
Romania	High	37.8 (32.8–75.2)	2
Russia	High	80.1 (59.6–54.2)	2
San Marino	High	47.4 (40.6–43.2) ^b	2
Serbia	High	38.5 (33.9–61.9)	1
Spain	Very high	48.3 (22.0–19.7)	3
Sweden	Very high	15.7 (12.4–40.0)	1
Switzerland	Very high	27.1 (5.0–78.4) ^a	2
Turkey	High	59.6 (48.6–40.5)	12
United Kingdom	Very high	26.3 (15.7–19.2) ^a	4

European region		39.6 (33.7–45.8)	69
Albania	High	63.0 (45.2–77.9) ^a	2
Armenia	High	39.1 (33.0–28.2)	1
Austria	Very high	47.2 (38.7–64.9) ^b	2
Belgium	Very high	21.8 (11.6–75.4) ^a	4
Bulgaria	High	58.3 (41.2–54.0)	3
Croatia	High	13.3 (5.1–31.3)	1
Cyprus	High	34.5 (26.9–19.2)	2
Czech Republic	Very high	29.8 (28.4–64.1)	3
Denmark	Very high	18.8 (18.4–96.8)	2
Estonia	High	69.2 (63.0–14.2) ^a	1
Finland	Very high	9.1 (5.8–60.5)	1
France	Very high	28.6 (16.1–34.8) ^a	1
Georgia	High	55.6 (50.7–75.4) ^a	1
Germany	Very high	25.5 (18.0–62.6)	4

ITALIA

29 %

Epidemiologia del carcinoma gastrico



Incidenza

Nel 2023, sono state stimate circa
15 000 nuove diagnosi
(uomini = 9000; donne = 6000)

Mortalità

Nel 2022, sono stimati 9.900 decessi
(uomini = 5700; donne = 4200).
Le stime per il 2023 non sono disponibili

Sopravvivenza netta a 5 anni dalla diagnosi

30% negli uomini e 35% nelle donne

Probabilità di vivere ulteriori 4 anni condizionata ad aver superato il primo anno dopo la diagnosi

53% negli uomini e 59% nelle donne

Prevalenza

82400 le persone viventi in Italia dopo una diagnosi di tumore dello stomaco (uomini = 50300; donne = 32100)

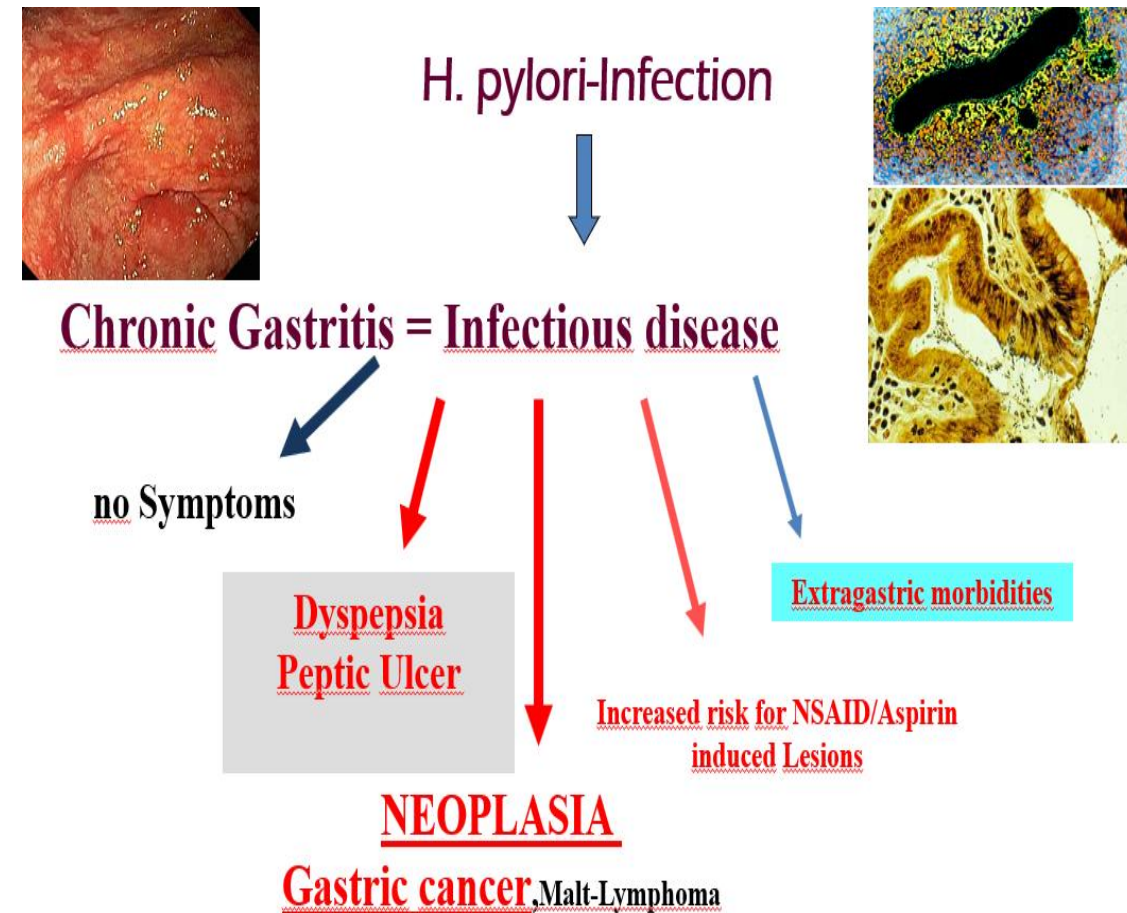
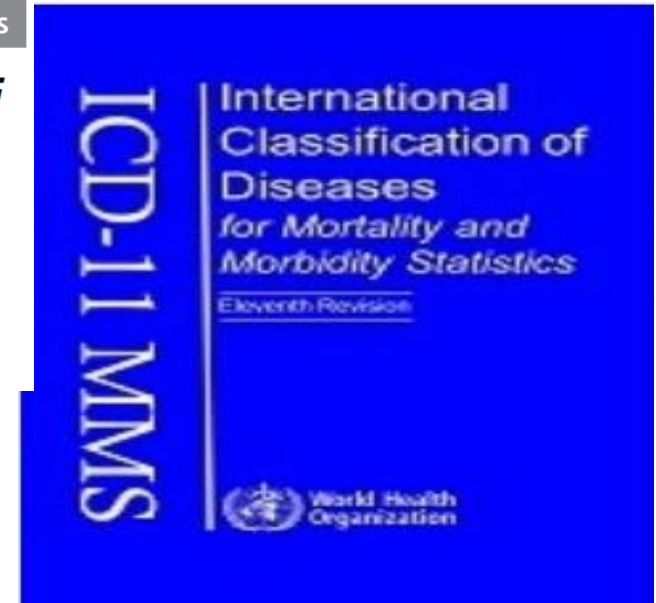
Il 90% dell` adenocarcinoma gastrico è causato da *H.pylori*

Helicobacter pylori Infection and Clinical outcomes

Guidelines

Kyoto global consensus report on *Helicobacter pylori* gastritis

Kentaro Sugano,¹ Jan Tack,² Ernst J Kuipers,³ David Y Graham,⁴ Emad M El-Omar,⁵ Soichiro Miura,⁶ Ken Haruma,⁷ Masahiro Asaka,⁸ Naomi Uemura,⁹ Peter Malfertheiner,¹⁰ on behalf of faculty members of Kyoto Global Consensus Conference *Gut* 2015;64:1353



DA42 Gastritis

DA42.0 Autoimmune gastritis

DA42.1 *Helicobacter pylori* induced gastritis

▶ DA42.2 Eosinophilic gastritis

DA42.3 Lymphocytic gastritis

▶ DA42.4 Allergic gastritis

DA42.5 Gastritis due to duodenogastric reflux

DA42.6 Menetrier disease

▶ DA42.7 Gastritis of unknown etiology with specific endoscopic or pathological features

▶ DA42.8 Gastritis due to external causes

DA42.9 Gastric phlegmon

DA42.Y Other specified gastritis

DA42.Z Gastritis, unspecified

Screening and eradication of *Helicobacter pylori* for gastric cancer prevention: Taipei Global Consensus II.

Liou JM, Malfertheiner P, Hong TC, et al Gut. 2025 Oct 8;74(11):1767-1791.

Includes 28 statements

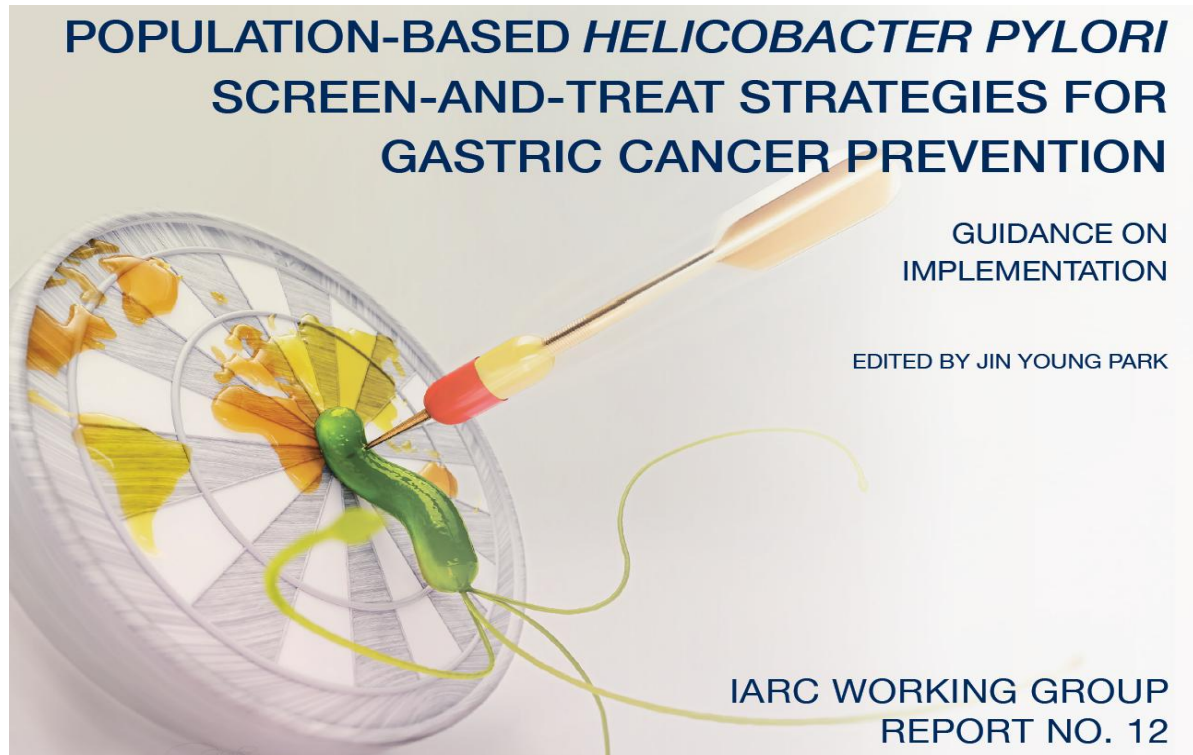
Conclusion: *H pylori* eradication is an effective prevention strategy for gastric cancer that should be offered to all infected adult individuals.

Prioritized open questions

- Optimal time for screening
- Longterm effects of population based eradication on individuals and population
- identification of simple parameters for risk stratification

The fifth edition of the European Code Against Cancer (ECAC5) released 19 October 2025

Recommends screen & treat to 27 Countries in EU



Park JY, editor (2025). Population-based *Helicobacter pylori* screen-and-treat strategies for gastric cancer prevention: guidance on implementation (IARC Working Group Reports No. 12). Lyon, France: International Agency for Research on Cancer. Available from: <https://publications.iarc.who.int/648>.

European Code Against Cancer, 5th Edition: cancer-causing infections and related interventions

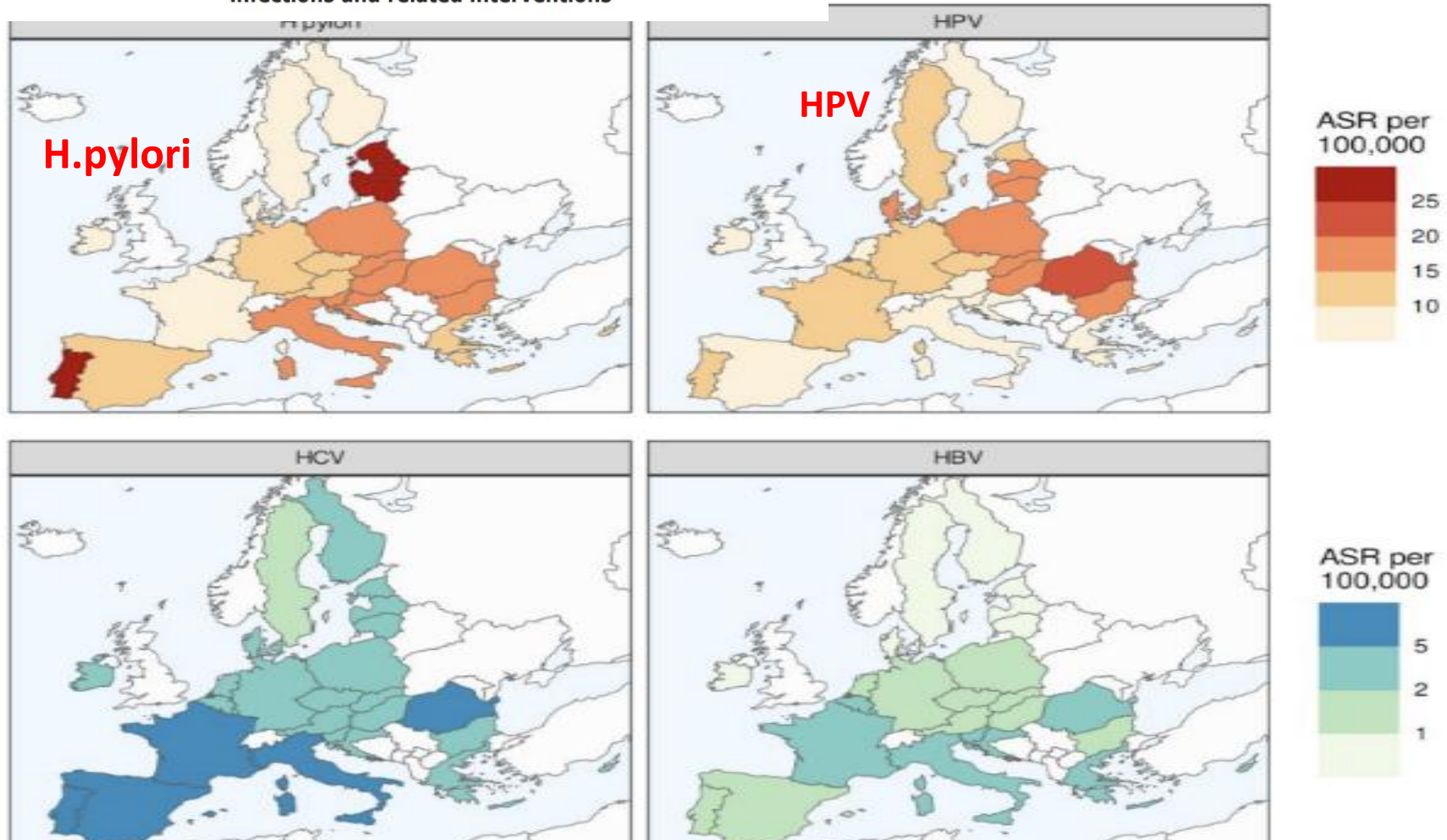
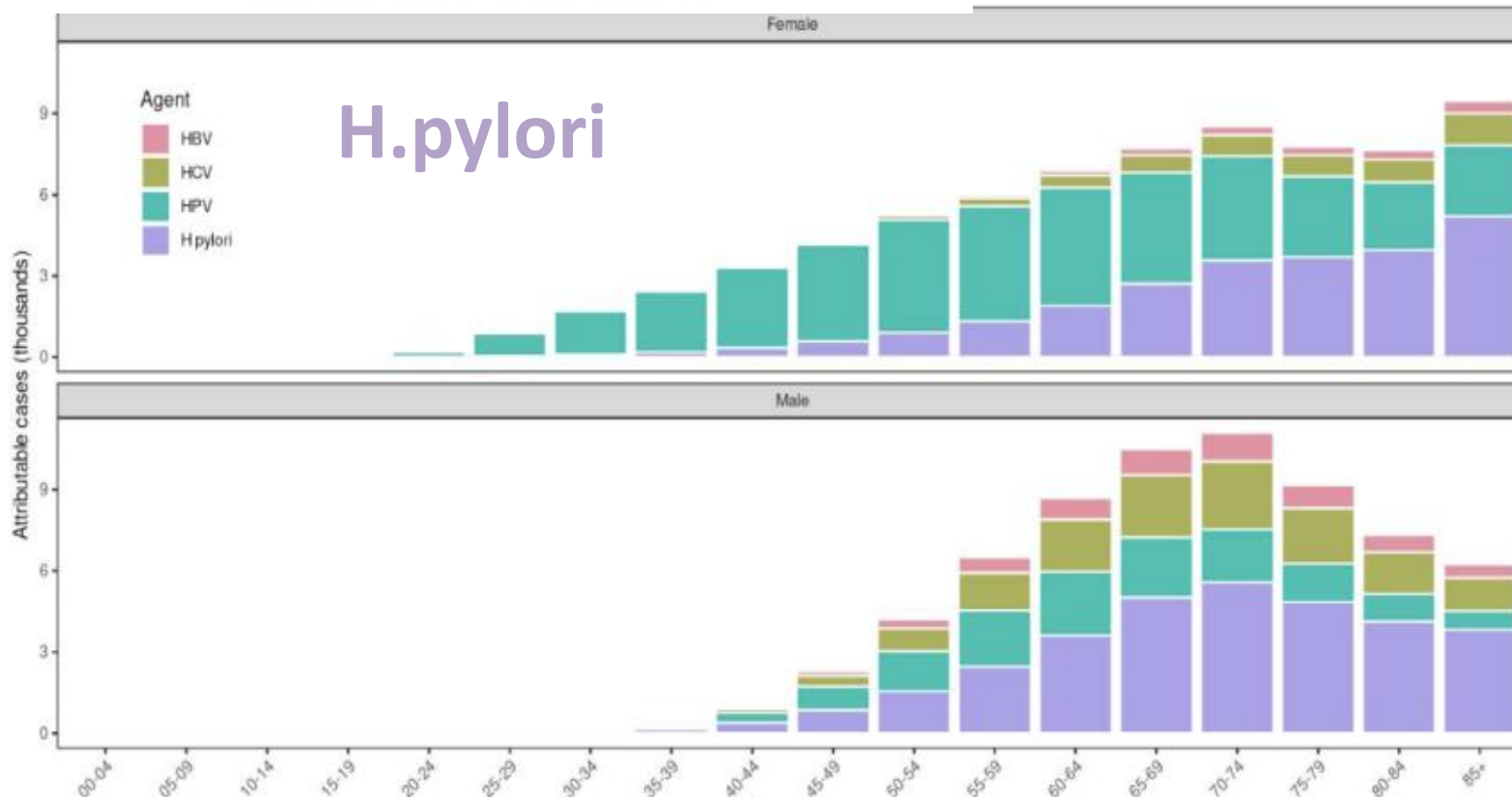


Figure 3: Age standardized incidence rates (ASRs) for cancers attributable to *H. pylori*, HPV, HCV, and HBV among men and women combined. ASRs are calculated using the 2022 population of in the European Union.

European Code Against Cancer, 5th Edition: cancer-causing infections and related interventions



Statement 14: Asymptomatic individuals at age above 50 years are considered vulnerable and at increased risk of gastric cancer compared with younger individuals.

EDITORIAL



should be encouraged in combination with screening for colorectal cancer

Helicobacter pylori Treatment for Gastric Cancer Prevention

Peter Malfertheiner, M.D.

The NEW ENGLAND JOURNAL of MEDICINE

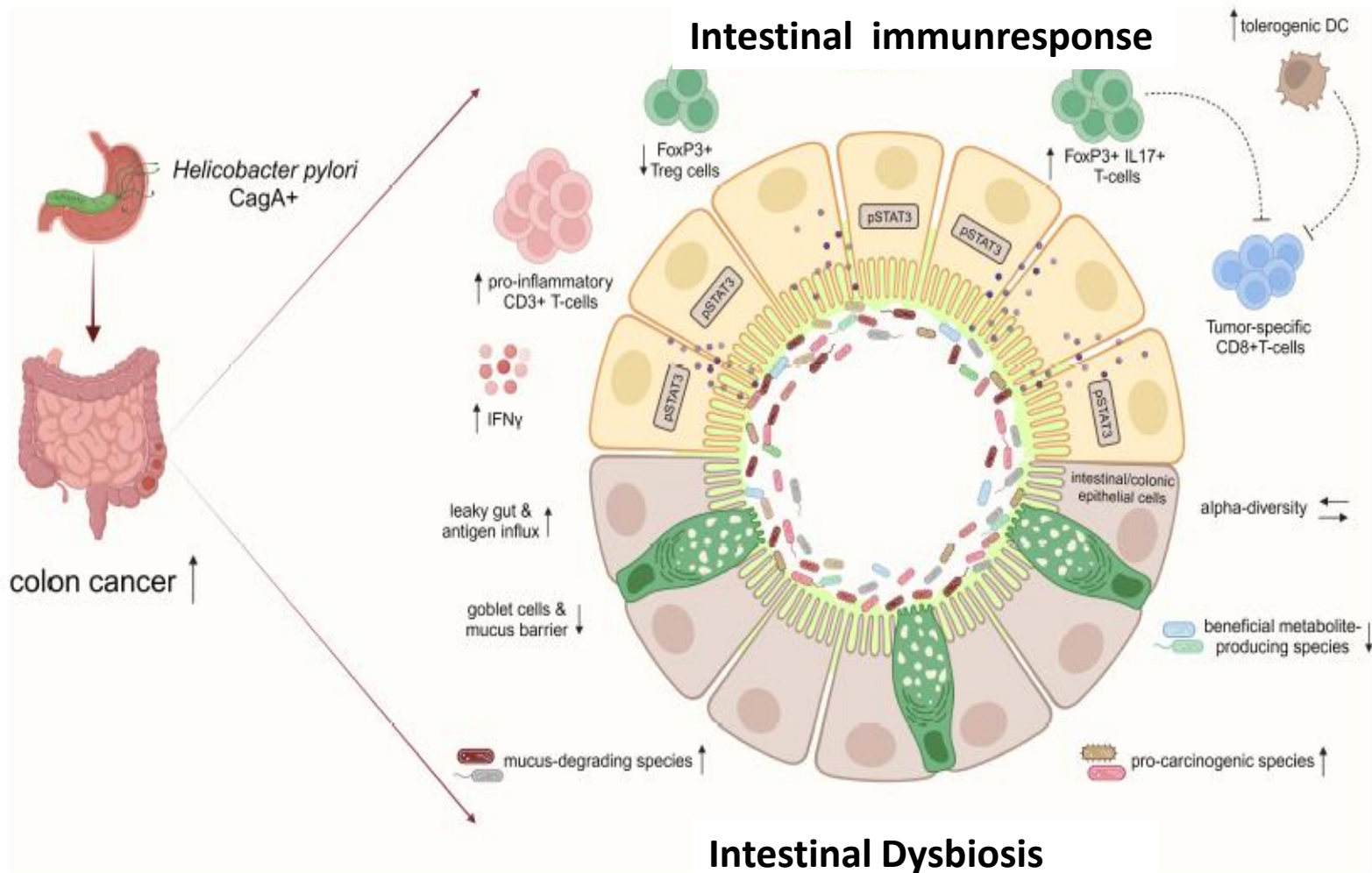
H. pylori screen-and-treat programs are cost-effective in high-risk populations likely to be so even in low-risk populations

SOUNDING BOARD

Helicobacter pylori Screen-and-Treat Programs for Gastric Cancer Prevention — IARC Working Group Report

J.Y. Park,¹ Y.-C. Lee,² P. Moayyedi,³ I. Lansdorp-Vogelaar,^{1,4} M.C. Camargo,⁵ B. Tepeš,⁶ C.C. Abnet,⁵ I.J. Choi,⁷ G. Clifford,¹ M. Dinis-Ribeiro,⁸ M. Gerhard,^{9,10} J.P. Gisbert,¹¹ K.J. Goodman,¹² J.H. Hwang,¹³ M. Inoue,¹⁴ V. Kayamba,¹⁵ M. Leja,¹⁶ W.K. Leung,¹⁷ W.-Q. Li,¹⁸ P. Malfertheiner,^{19,20} Z. Maravic,²¹ T. Matysiak-Budnik,²² M. McLeod,²³ F. Megraud,²⁴ E. Morgan,² D.T. Mulder,⁴ J. Parsonnet,²⁶ P. Pempa,²⁷ G.P. Dhakal,²⁸ A. Riquelme,²⁹ P. Sasieni,³⁰ S. Smith,³¹ J. Takens,³² A. Teng,²³ and D. Forman³³

H.pylori induces a procarcinogenic milieu in the colon



Veronika Engelsberger, Markus Gerhard and Raquel Mejías-Luque*
Frontiers in Cellular and Infection Microbiology 2024
Ralser A, Dietl A, Jarosch S et al Gut. 2023 Jul;72(7):1258-1270

reversible following H.pylori eradication In animal experiments

Diagnosis H.pylori

Invasive tests

Gastroscopic biopsies from antrum and/or corpus with or without angulus

Formalin-embedded tissue samples

Histology for gastritis grading and staging

Direct detection via PCR, qPCR or FISH

AST via NGS

Fresh tissue samples

Rapid urease test

Microbial culture

AST using different antimicrobials

AST via NGS or RT-PCR



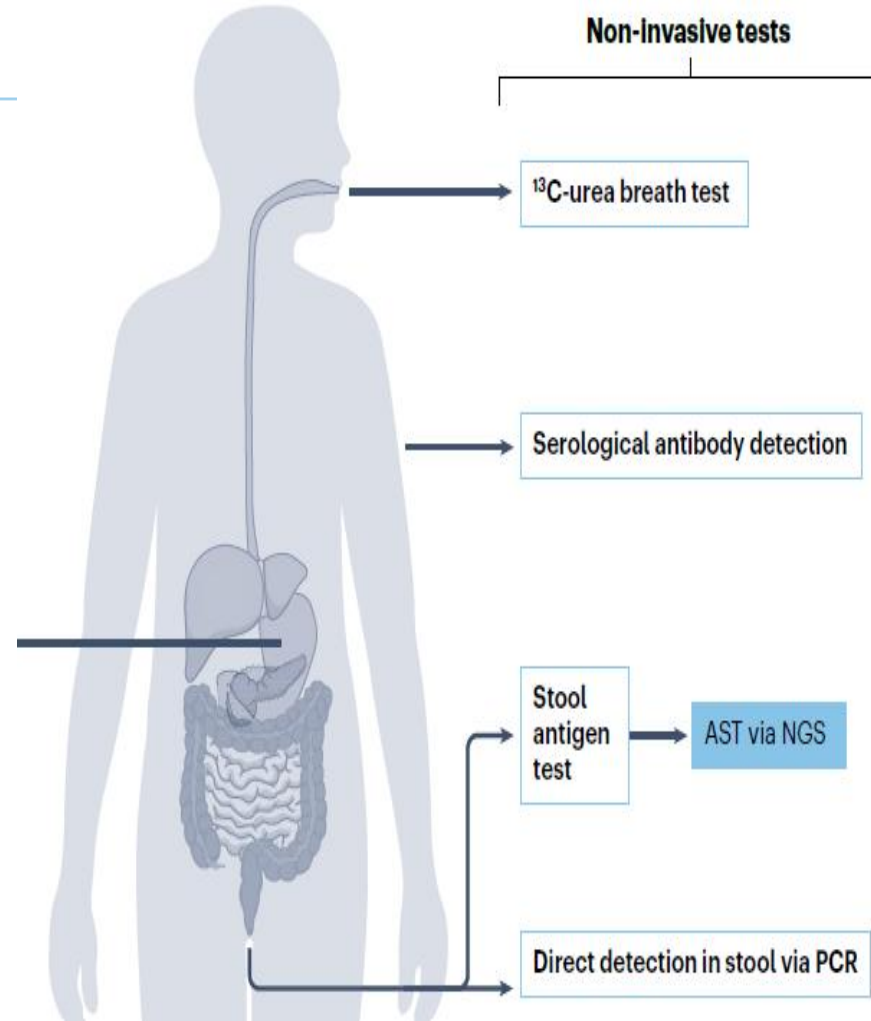
Non-Invasive tests

¹³C-urea breath test

Serological antibody detection

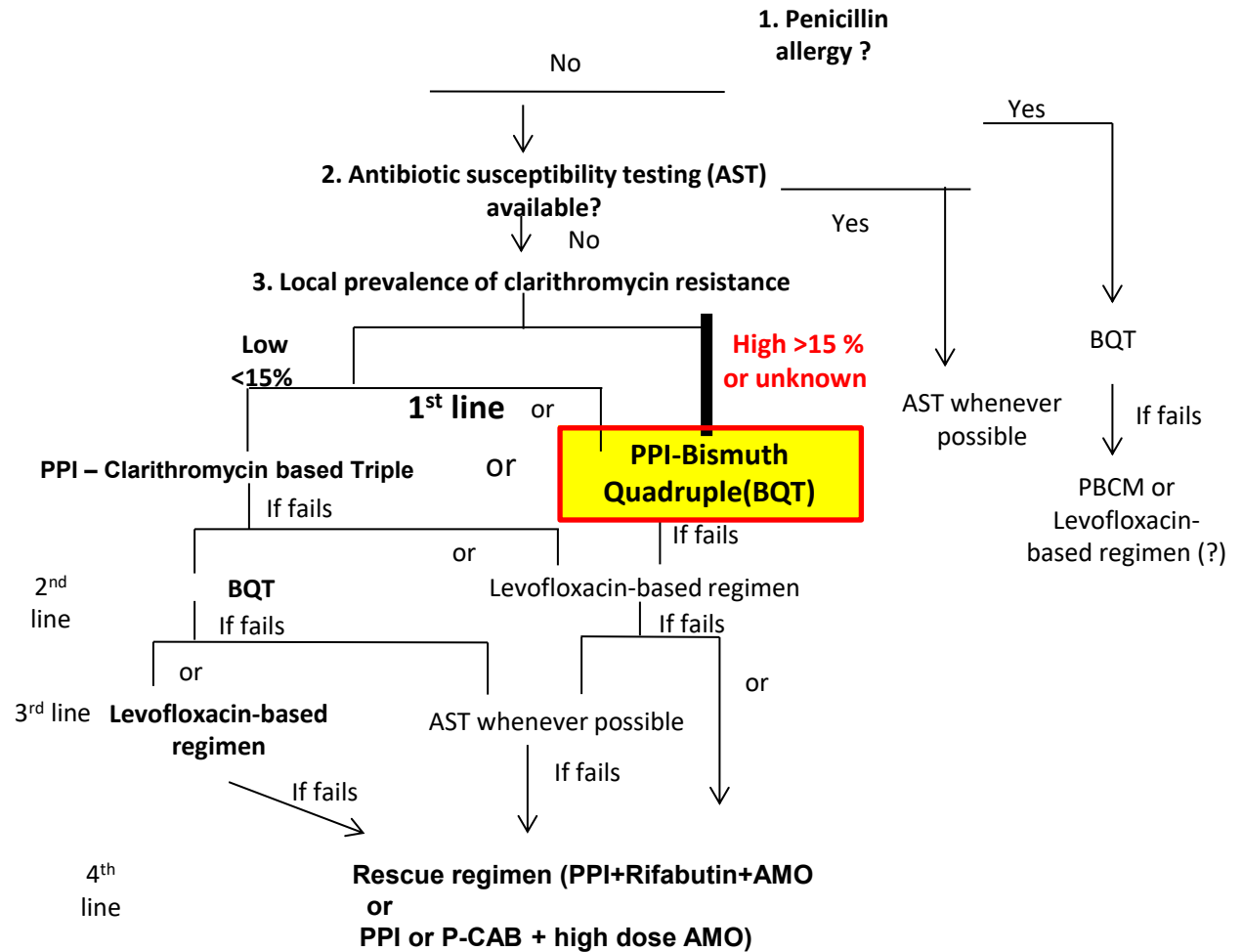
Stool antigen test
→ AST via NGS

Direct detection in stool via PCR



Therapy Algorithm in H.pylori Infection

*PPI can be substituted by P-CABs where available



The role of Probiotics in H.pylori eradication

- ❖ Increase the efficacy of eradication therapies
- ❖ Prevent from gastrointestinal side effects
- ❖ Potential for the development of an alternative therapy principle



Original article

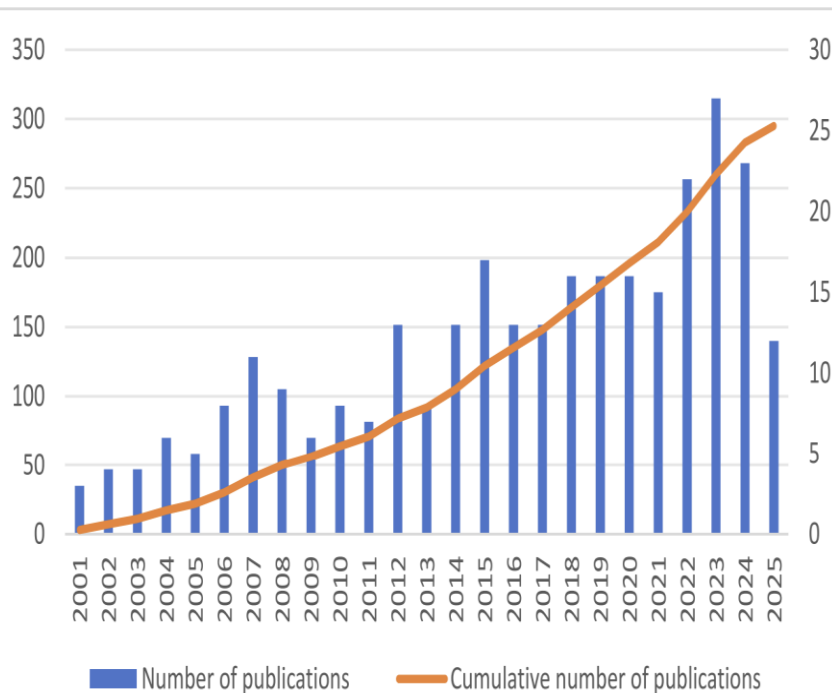
Journal of Infection and Public Health 19 (2026) 10316

Probiotics in the treatment of helicobacter pylori infection: A bibliometric analysis from 2001 to 2025



Qi-Qi Guo ^{a,b}, Huan Zhang ^a, Wei-Yue Li ^a, Dan-Yang Zhao ^a, Meng-Qi Liang ^{a,c}, Rong Yan ^{a,d}, Xiao-Jing Zhu ^a, Yong-Quan Shi ^{a,*}

This bibliometrics research **contains 295 publications**, all of which were published between 2001 and 2025



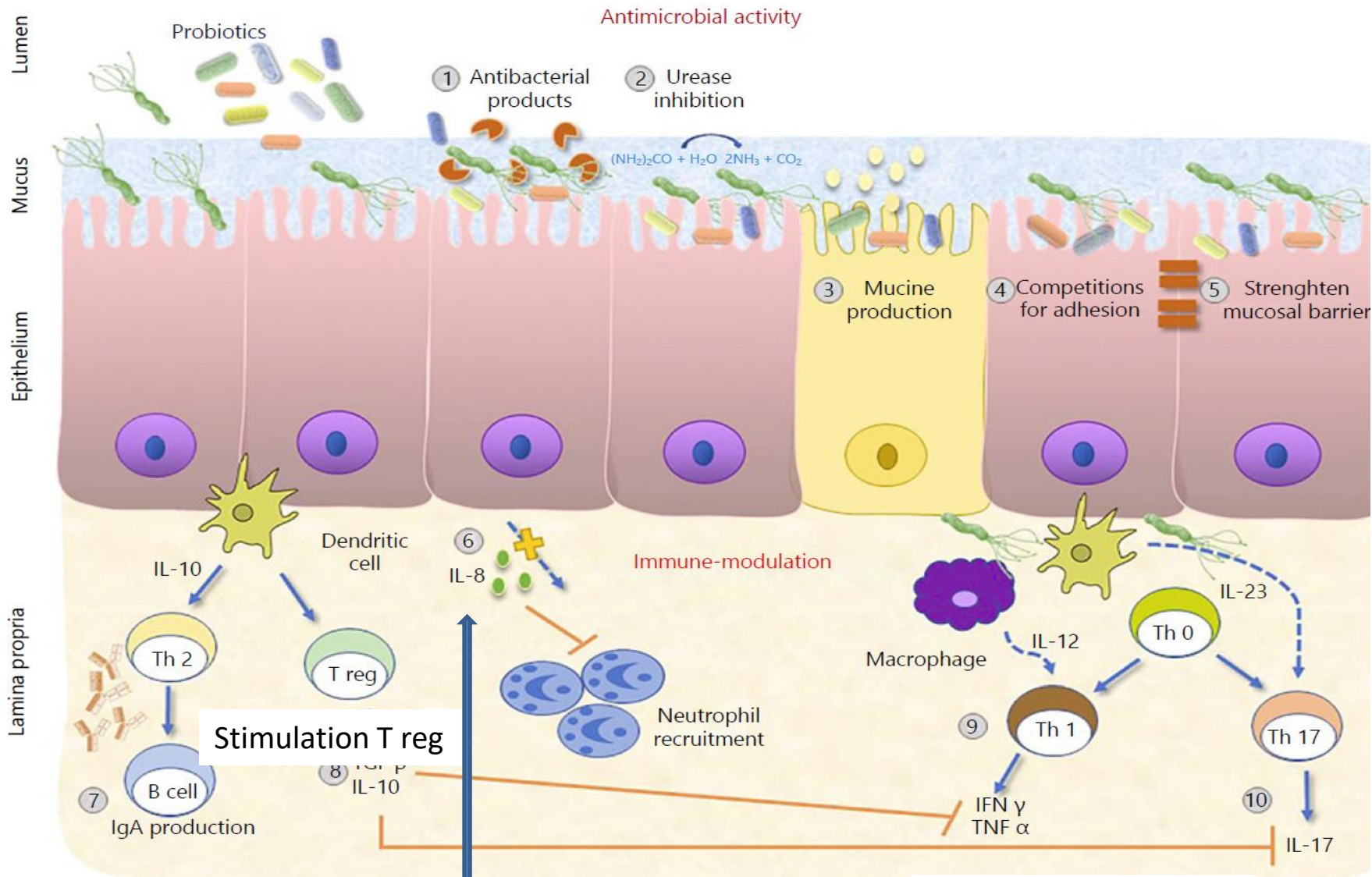
Top 25 References with the Strongest Citation Bursts

References	Year	Strength	Begin	End	2001 - 2025
Malfertheiner P, 2002, ALIMENT PHARM THER, V16, P167, DOI 10.1046/j.1365-2036.2002.01169.x, DOI	2002	8.88	2003	2007	[Red bar]
Sheu BS, 2002, ALIMENT PHARM THER, V16, P1669, DOI 10.1046/j.1365-2036.2002.01335.x, DOI	2002	8.32	2003	2007	[Red bar]
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Sgouras D, 2004, APPL ENVIRON MICROB, V70, P518, DOI 10.1128/AEM.70.1.518-526.2004, DOI	2004	8.66	2005	2009	[Red bar]
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Hamilton-Miller JMT, 2003, INT J ANTIMICROB AG, V22, P360, DOI 10.1016/S0924-8579(03)00153-5, DOI	2003	6.95	2006	2008	[Red bar]
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Kim MN, 2008, HELICOBACTER, V13, P261, DOI 10.1111/j.1523-5378.2008.00601.x, DOI	2008	8.56	2010	2012	[Red bar]
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Wang ZH, 2013, J CLIN GASTROENTEROL, V47, P25, DOI 10.1097/MCG.0b013e318266f6cf, DOI	2013	8.43	2013	2017	[Red bar]
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Probiotics in H.pylori eradication

- **Mechanisms**
- **Clinical effects**
 - **increase in efficacy**
 - **reduction of side effects**

Probiotics modulate the gastric immune response



Stimulation der IgA Produktion

IL-8 Hemmung

Hemmung Th1 & Th 17

H.pylori Therapy

Probiotic players

- Bacterial strains
- Fungal strain

Strain mixtures (single strains)

Lactobacilli,

Bifidobacteria

(L. rhamnosus) GG.....

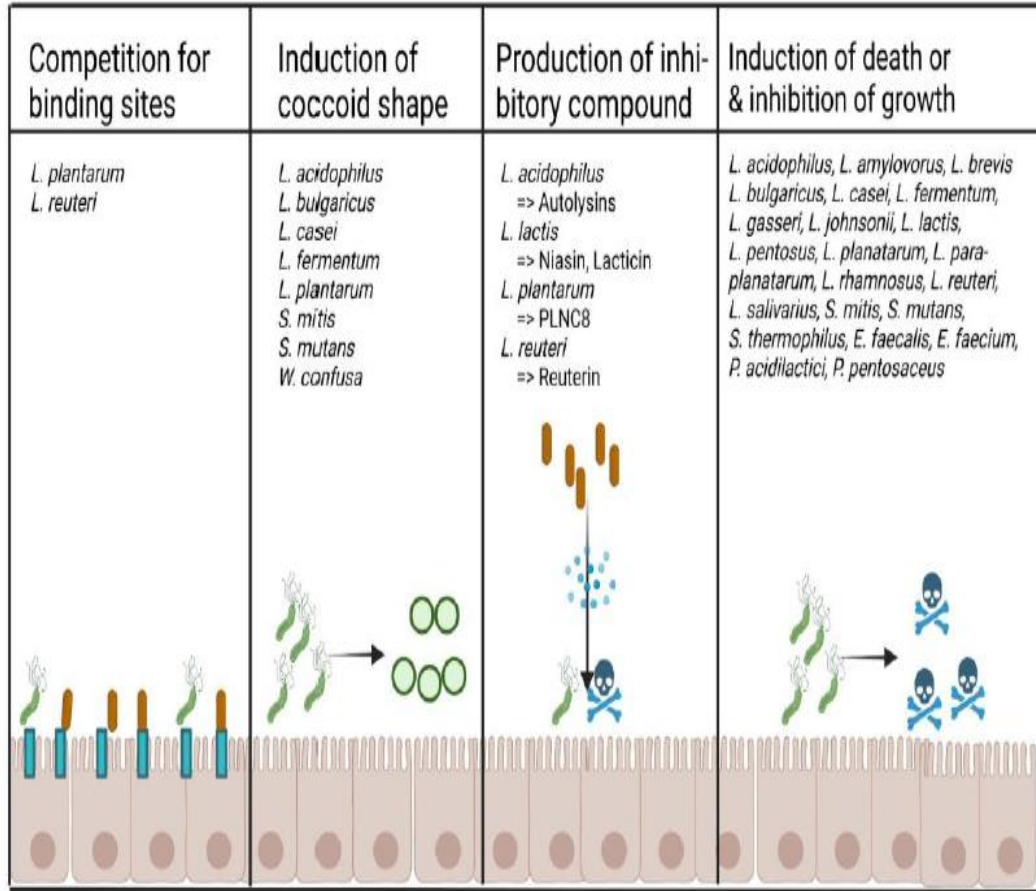


S. boulardii



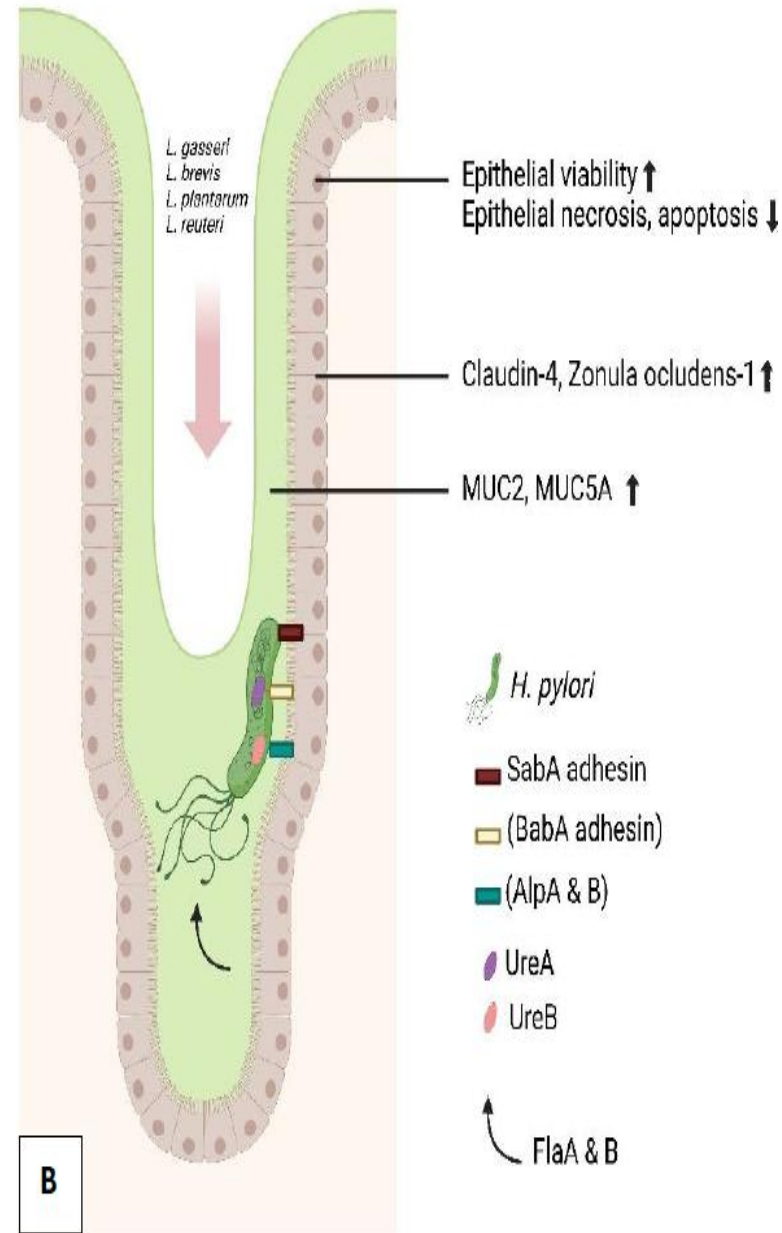
Latest ESCMID guidelines a robust body of evidence emerged supporting probiotics for treatment and/or prevention of AADys

Anti-*H. pylori* mechanisms of commensal and probiotic Lactobacillales



- Probiotic bacterium
- spiral *H. pylori*
- secreted compound
- cell-surface receptors
- coccoid *H. pylori*
- death/damage of *H. pylori*

A



- H. pylori*
- SabA adhesin
- (BabA adhesin)
- (AlpA & B)
- UreA
- UreB
- FlaA & B

B

Westphal JR, Koch N, Macke L, Vasapolli R, Saka D, Vilchez-Vargas R, Song T, Malfertheiner P, Schulz C.. *Digestion*. 2025;106(4):349-364.

Systematic review and meta-analysis: Multi-strain probiotics as adjunct therapy for *Helicobacter pylori* eradication and prevention of adverse events

United European Gastroenterology Journal
2016, Vol. 4(4) 546–561
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/2050640615617358
ueg.sagepub.com



Lynne V McFarland¹, Ying Huang², Lin Wang² and Peter Malfertheiner³

19 randomized controlled trials

-4 with effect on eradication

-5 reducing adverse events

- Only two probiotic mixtures (Lactobacillus acidophilus/Bifidobacterium animalis and a multi-strain mixture) had significant efficacy for all outcomes.
- multi-strain probiotics may improve *H. pylori* eradication rate and prevent the development of adverse events

Efficacy of Single-Strain Probiotics Versus Multi-Strain Mixtures: Systematic Review of Strain and Disease Specificity

McFarland LV *Dig Dis Sci.* 2020;10.1007/s10620-020-06244-z. doi:10.1007/s10620-020-06244 published online ahead of print, 2020 Apr

65 RCTs :

- 41 with single strains
- 22 multi-strain mixtures , 2 comparing single strain to mixture arms

The mixture of *L. rhamnosus* GG and *B. lactis* Bb12 more effective than *L. rhamnosus* GG alone for the eradication of *H. pylori*.

Efficacy and safety of probiotic-supplemented bismuth quadruple therapy for the treatment of *Helicobacter pylori* infection: a systematic review and meta-analysis.

Yao G, Fan X, Lu D. J Int Med Res. 2023 Oct;51(10): PMID: 37848344;

➤ Ten studies were selected for inclusion in the meta-analysis

➤ eradication rates in intention-to-treat and per-protocol analyses of the probiotic group vs. the control group

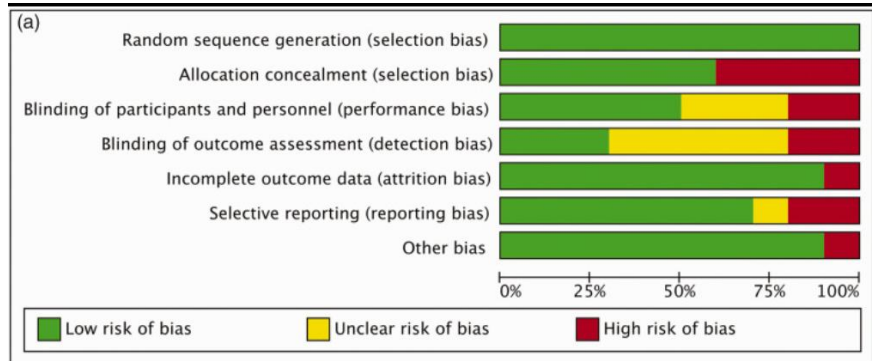
1.07 (95% CI: 1.02-1.11)

1.04 (95% CI: 1.00-1.07), respectively.

➤ Probiotic supplementation reduced the incidences of side effects

➤ diarrhea (RR 0.41, 95% CI: 0.25-0.67)

➤ bitter taste (RR 0.63, 95% CI: 0.40-0.99)



Study	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Yuchong Zhao (2021)	+	+	+	+	+	+	+
Piyakorn Boonyam (2019)	+	+	+	+	+	+	+
Luyi Chen (2018)	+	+	+	+	+	+	+
Lili Jiang (2018)	+	+	+	+	+	+	+
Chanagune Srinarong (2014)	+	+	+	+	+	+	+
Carolina Moreno Marquez (2022)	+	+	+	+	+	+	+
Bo Tang (2020)	+	+	+	+	+	+	+
Antonio Tursi (2004)	+	+	+	+	+	+	+
Ahmad Shavakhi (2013)	+	+	+	+	+	+	+
Afshin Shafiqhi (2016)	+	+	+	+	+	+	+

Meta-analysis supports the use of probiotics in combination with BQT in the clinical management of patients with *H. pylori* infection

Efficacy and safety of probiotics combined with bismuth-containing quadruple therapy for *Helicobacter pylori* eradication: a systematic review and meta-analysis.

Zhou S, Yu Y, Tian J, Wang X, Zeng M, Song H. Front Microbiol. 2026 Jan 7;16:1704508. doi: 10.3389/fmicb.2025.1704508. PMID: 41574348; PMCID: PMC12819727.

10 RCTs 1,630 patients included

**H. pylori efficacy of eradication improved with probiotics
(RR 1.06, 95% CI 1.01–1.11, p = 0.009, ARR = 7.5%, **NNT ≈ 13**).**

Suggest a supporting role for probiotics

However the optimal probiotic composition and administration strategy remains to be investigated

Clinical Trial, Prospective , Placebo controlled, Multicenter OMNi-BiOTiC[®] 10 in *Helicobacter pylori* therapy

Acronym: OMNi-PYL

2. Endpoints

2.1 Primary endpoint

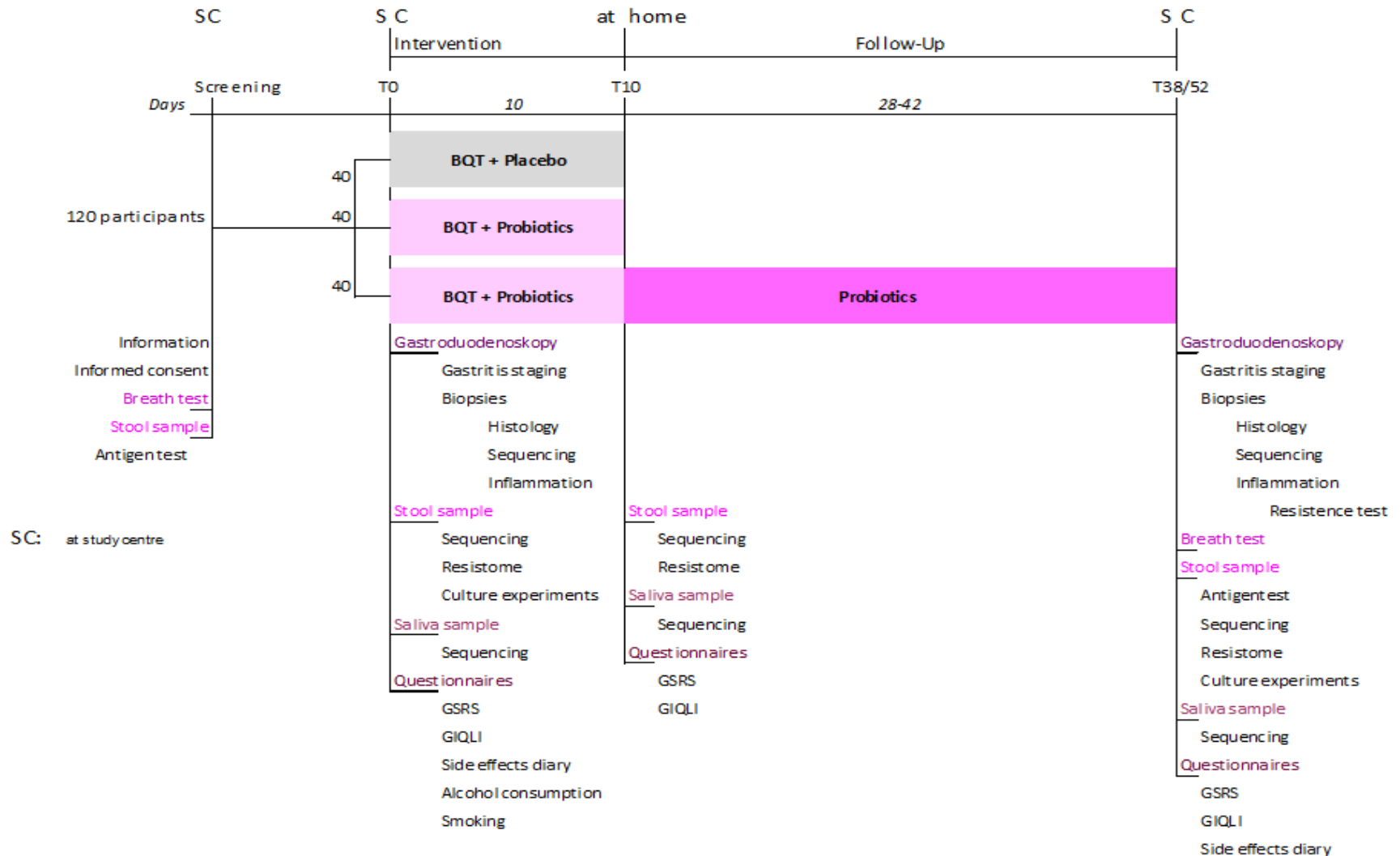
□ diversity and composition of the intestinal microbiome in patients with oral consumption of the multispecies probiotic OMNi-BiOTiC[®] 10 with PPI plus Pylera at time points T10 (10th day of Pylera therapy) and TER (time point of eradication test)

2.2 Secondary endpoints

- The composition of the stomach microbiota at time point T10 (compared to T0) and TER (compared to T0 and T10)
- The composition of the oral microbiota at time point T10 (compared to T0) and TER (compared to T0 and T10)
- The composition of the resistome at time point T10 (compared to T0) and TER (compared to T0 and T10)
- Prevalence, duration and severity of side effects
- The eradication rate of *Helicobacter pylori*
- Therapy compliance of patients
- Local inflammation in the stomach (subgroup analysis at TER compared to T0)

Omnibiotic 10 in H.pylori eradication with BQT

Outcomes: Rx efficacy, gastric microbiota composition, gut microbiota, adverse events



Study centers: Bari, München, Napoli

Is there a role for H.pylori post-successful eradication ?

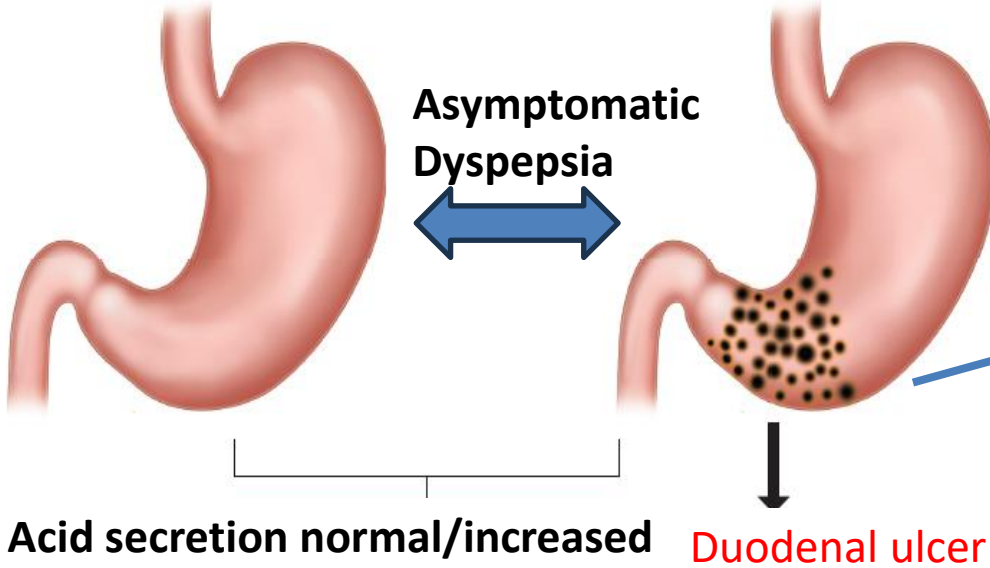
The microbial pattern changes

**In case of premalignant conditions changes may persist
or progress in a subset of patients**

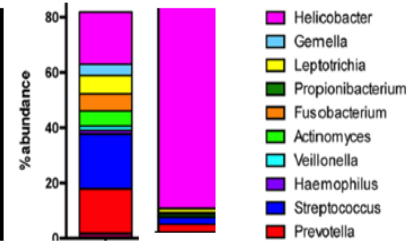
H.pylori Gastritis & gastric microbiota according to Gastritis – Phenotype

Milde Form der gleichförmig ausgeprägten Gastritis

Antrum prädominante Gastritis mit minimaler Beteiligung des Corpus



- Prevotella
- Streptococcus
- Paraprevotella
- Campylobacter
- Neisseria
- Veillonella



Fusobacterium nucleatum.

Multifokale Atrophie mit intestinaler Metaplasie

Impaired acid secretion

Gastric cancer risk high

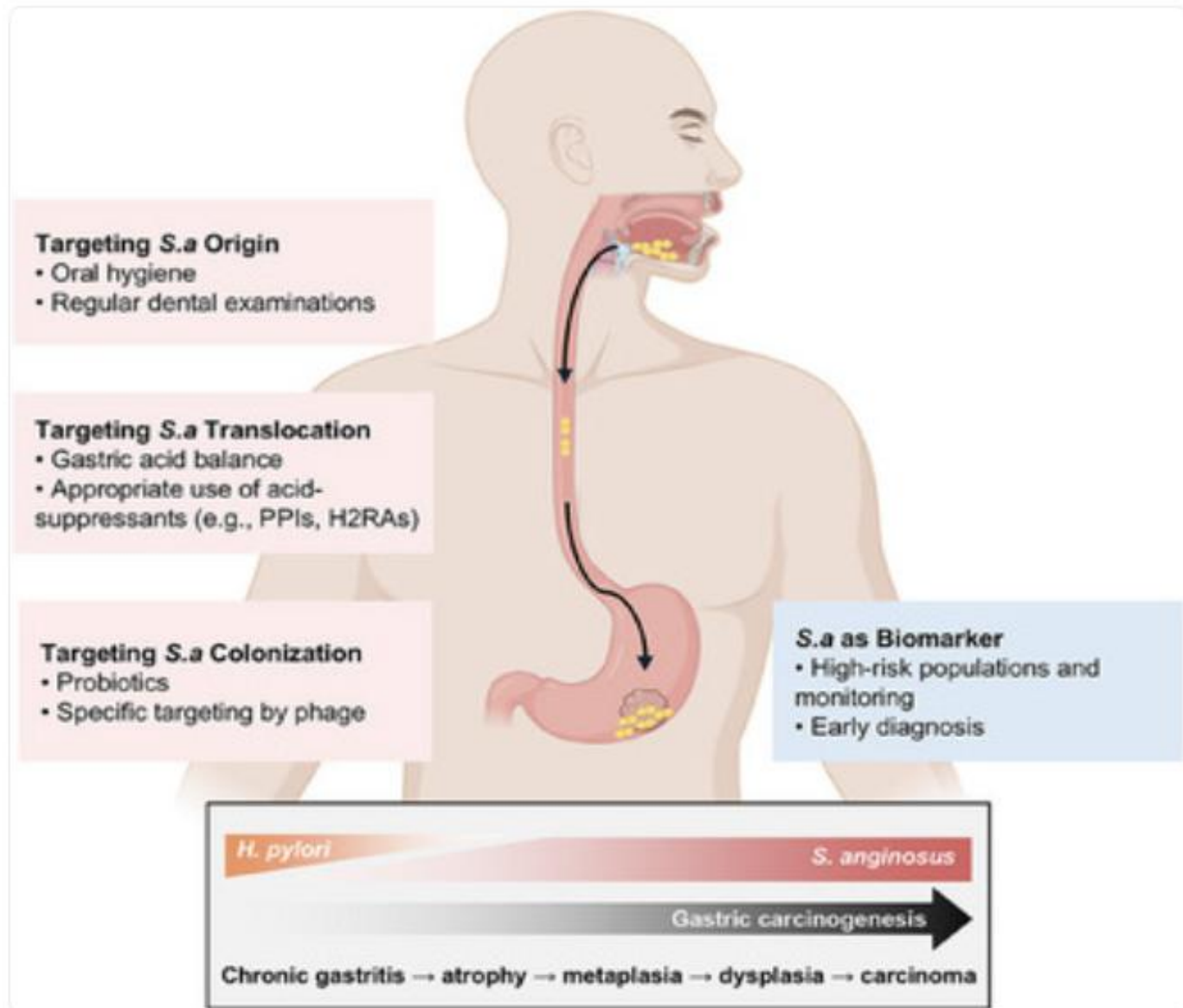
- Flavobacteria
- Prevotella
- Enterobacteria
- Pasteurellacea



Pasteurellaceae
 Enterobacteria
 Neisseria,
 Veillonella
Streptococcus,
 Rothia

New pathogen for gastric cancer: *Streptococcus anginosus*.

Zeng R, Sung JJY, Yu J. Clin Transl Med. 2024 Dec;14(12):e70104. doi: 10.1002/ctm2.70104.



H.pylori Eradication

Focus on the Intestinal Microbiome

Probiotics are effective in the reduction of GI side effects caused by H.pylori eradication

Statement 6: Certain probiotics have been shown to be effective in reducing GI side effects caused by *H. pylori* eradication therapies.

Agreement 89%

Grade A2

A growing number of systematic reviews and meta-analyses of RCTs have evaluated the efficacy of probiotics in decreasing side effects caused by *H. pylori* eradication therapies, with

Malfertheiner P, *et al.* *Gut* 2022;0:1–39. doi:10.1136/gutjnl-2022-327745

Efficacy and safety of probiotics combined with bismuth-containing quadruple therapy for *Helicobacter pylori* eradication **a systematic review and meta-analysis.**

Zhou S, Yu Y, Tian J, Wang X, Zeng M, Song H.

Front Microbiol. 2026 Jan 7;16:1704508. doi: 10.3389/fmicb.2025.1704508.

10 RCTs 1,630 Patients

Reduction of side effects

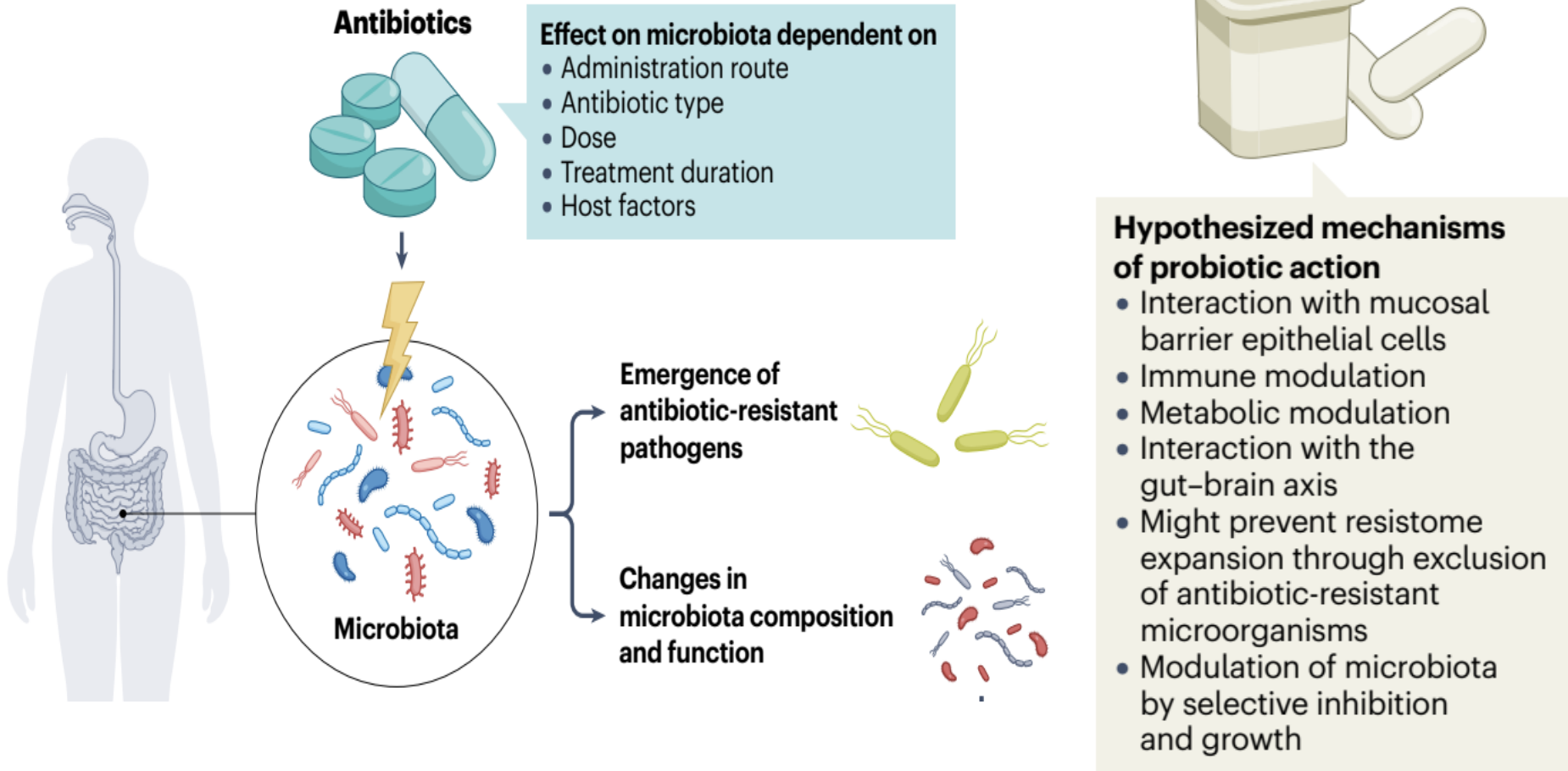
(RR 0.58, 95% CI 0.42–0.80, $p = 0.001$, ARR = 11.1%, NNT ≈ 9)

➤ significant reduction of diarrhea and constipation

Antibiotic-perturbed microbiota and the role of probiotics

Hania Szajewska^{1,20}, Karen P. Scott^{2,20}, Tim de Meij³, Sofia K. Forslund-Startceva^{4,5,6,7}, Rob Knight^{8,9,10,11,12}, Omry Koren¹³, Paul Little¹⁴, Bradley C. Johnston^{15,16}, Jan Lukasiak¹, Jotham Suez¹⁷, Daniel J. Tancredi¹⁸ & Mary Ellen Sanders¹⁹✉

H. pylori Eradication ideal model to study the effect of antibiotics on the intestinal microbiome and the protective effect of selected probiotics



Long-term changes of gut microbiota, antibiotic resistance, and metabolic parameters after Helicobacter pylori eradication: a multicentre, open-label, randomised trial

Liou JM, Chen CC, Chang CM, et al. *Lancet Infect Dis.* 2019;19(10):1109-1120.

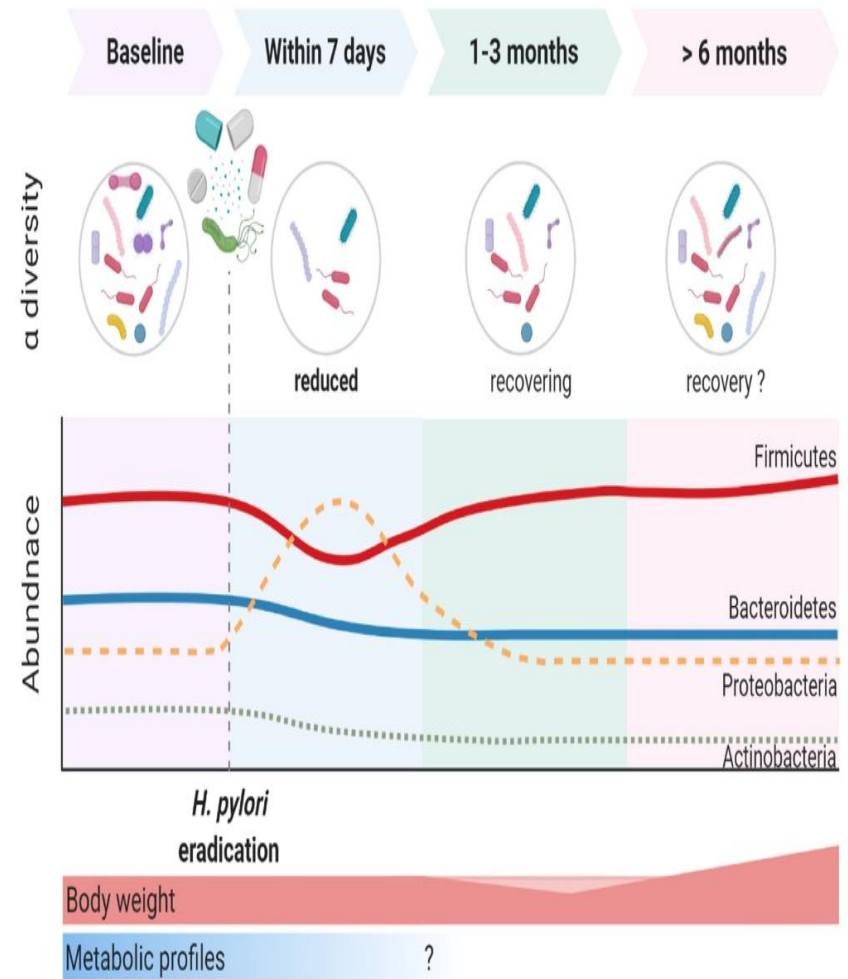
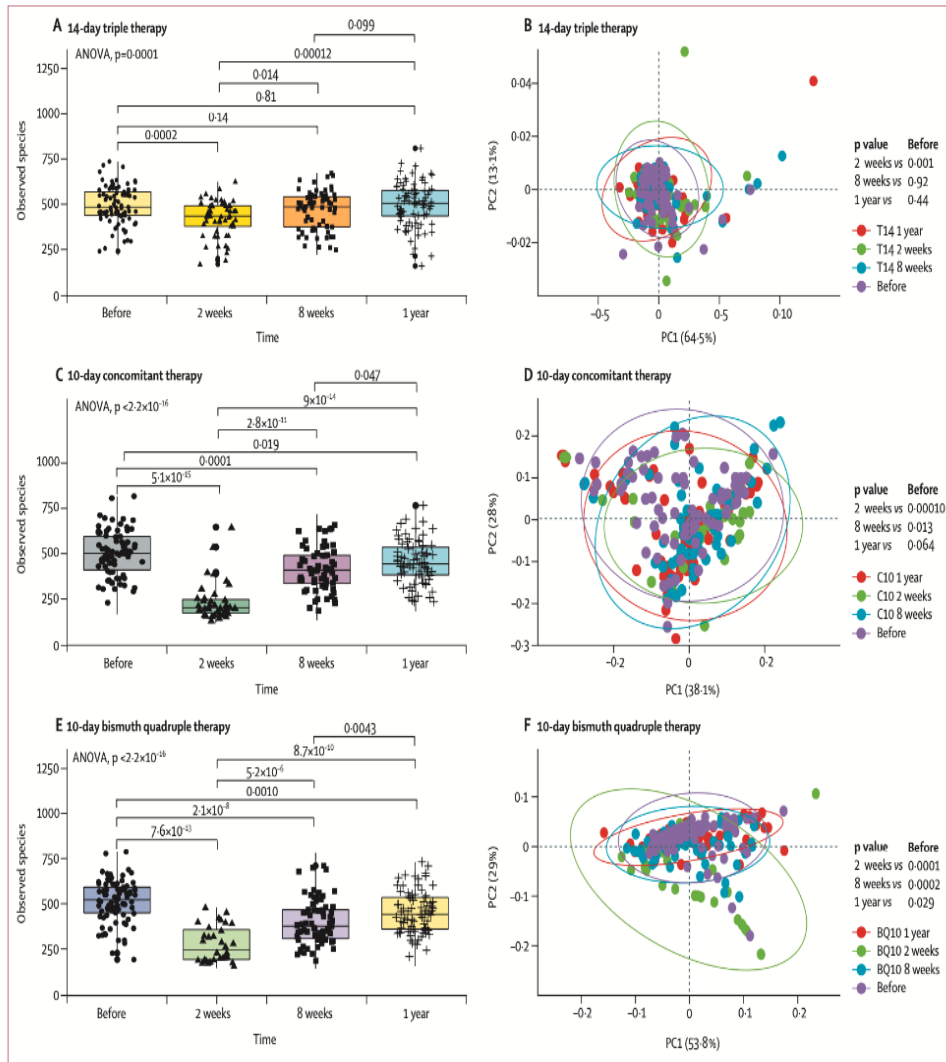
- To assess the short-term and long-term impacts of H.pylori eradication therapies on gut microbiota & antibiotic resistance

- Patients were randomized to receive either

- 14-day triple therapy (T14) 84% (452/540) 86% (464/540) 90% (488/540)
- 10-day concomitant therapy (C10)
- 10-day bismuth quadruple therapy (BQ10)

	Baseline	Week 2	Week 8	1 Year
Blood sampling*	√		√	√
Stool culture for E. coli and Klebsiella	√	√	√	√
Stool sampling for gut microbiota	√	√	√	√

Effects of different H.pylori eradication regimens on Gut Microbiota



Chen CC et al, Gut Microbes 2021
Liou JM et al, Lancet Infect Dis 2019

Antibiotic-Resistance in Gut bacteria following H.pylori Eradication

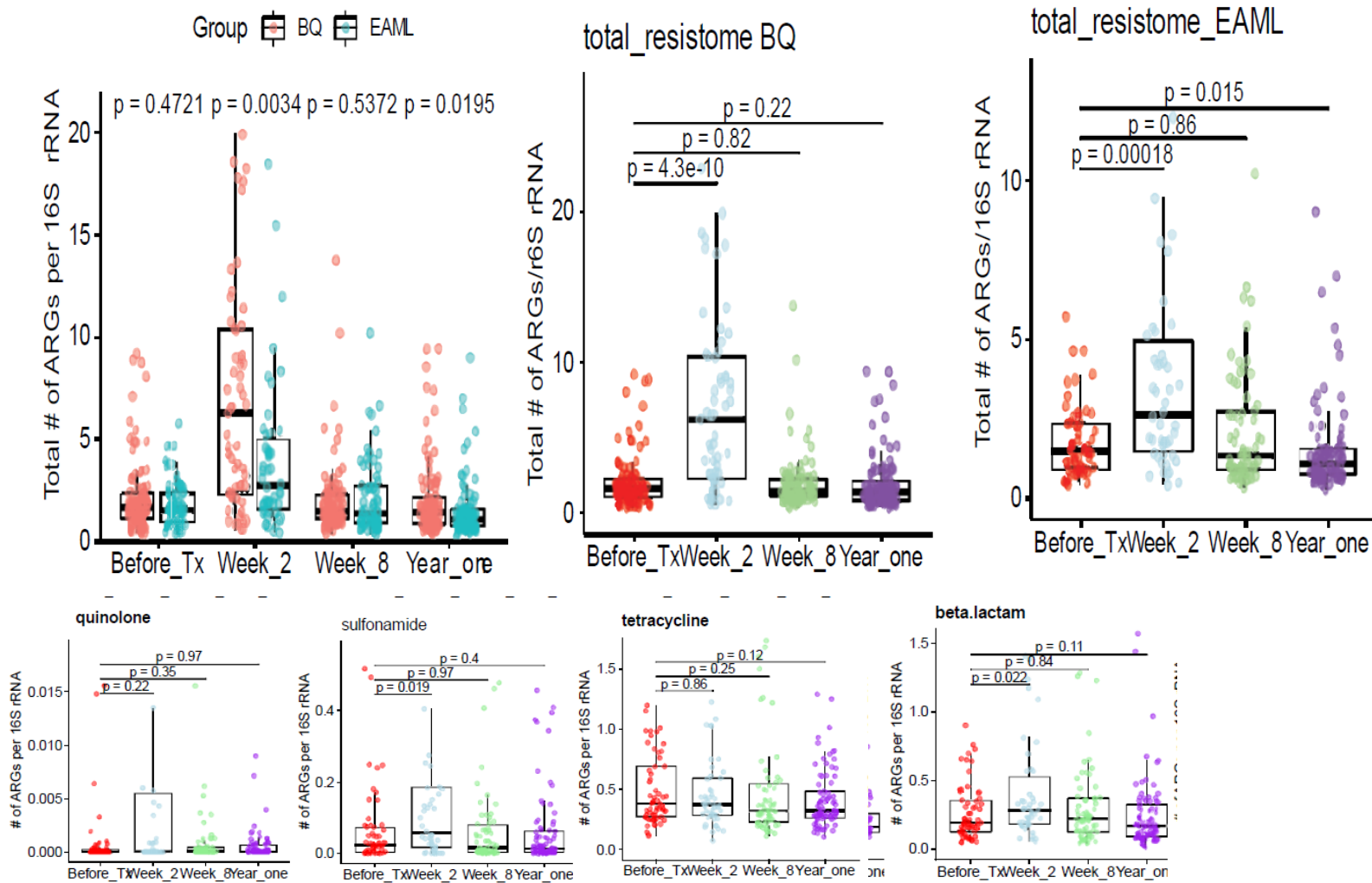
Second-line levofloxacin-based quadruple therapy versus bismuth-based quadruple therapy for Helicobacter pylori eradication and long-term changes to the gut microbiota and antibiotic resistome: a multicentre, open-label, randomised controlled trial.

Liou JM, Jiang XT, Chen CC, Luo JC, Bair MJ, Chen PY, Chou CK, Fang YJ, Chen MJ, Chen CC, Lee JY, Yang TH, Yu CC, Kuo CC, Chiu MC, Chen CY, Shun CT, Hu WH, Tsai MH, Hsu YC, Tseng CH, Chang CY, Lin JT, El-Omar EM, Wu MS; Taiwan Gastrointestinal Disease and Helicobacter Consortium

Lancet Gastroenterol Hepatol. 2023 Mar;8(3):228-241.

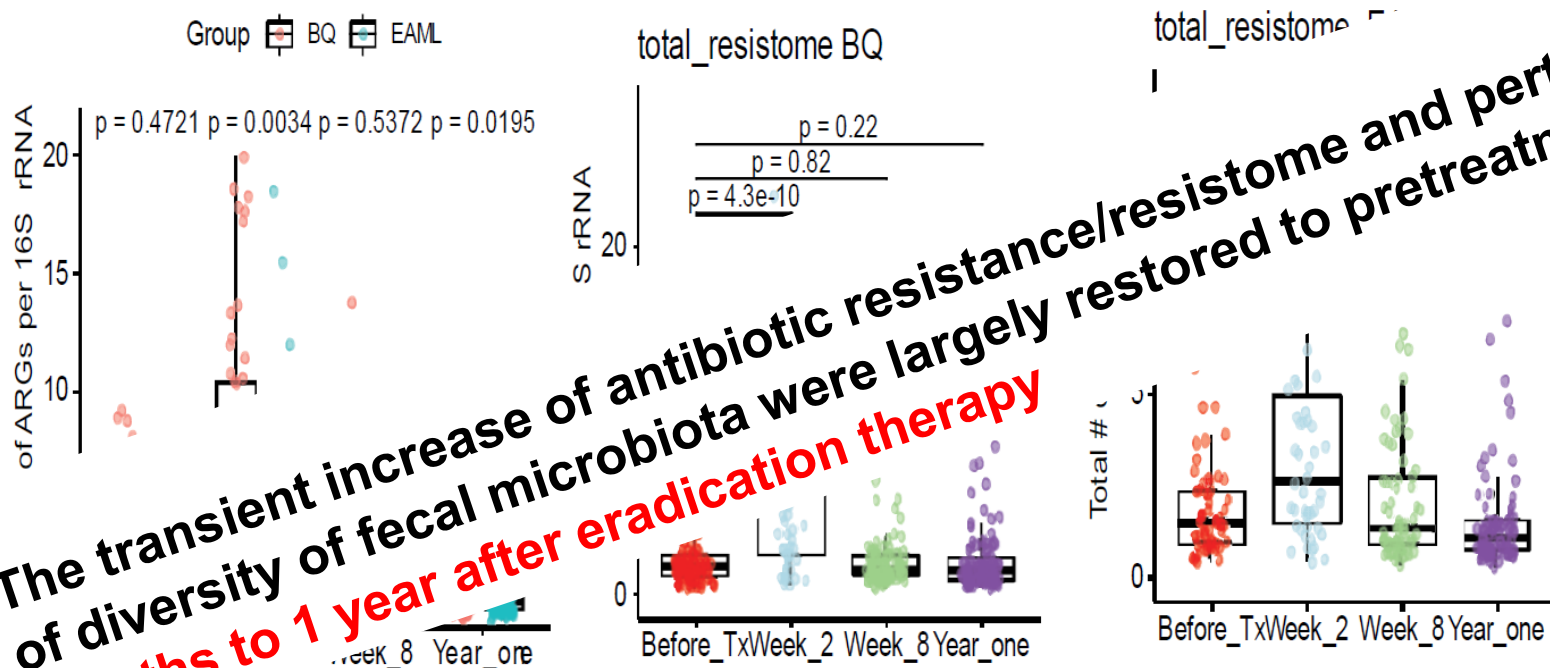
Changes of antibiotic resistome of gut microbiota after *H. pylori* eradication

Bismuth quadruple therapy (BQ) or levofloxacin quadruple therapy (EAML)

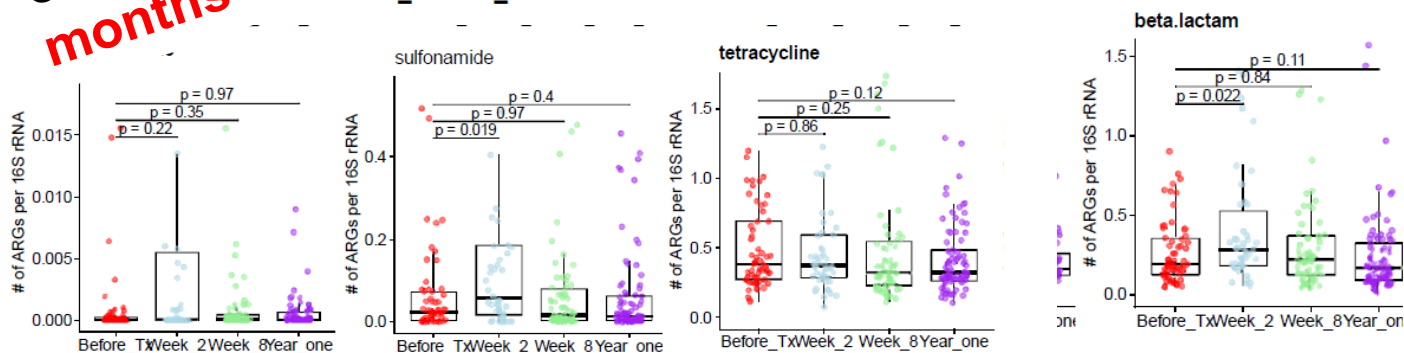


Changes of antibiotic resistome of gut microbiota after *H. pylori* eradication

Bismuth quadruple therapy (BQ) or levofloxacin quadruple therapy (EAML)



The transient increase of antibiotic resistance/resistome and perturbation of diversity of fecal microbiota were largely restored to pretreatment level months to 1 year after eradication therapy



Antimikrobielle Resistenz Gene (ARG) unterschiedlich lange nachweisbar in Abhängigkeit der H.pylori Eradikations -Therapie

- laboratory-cultured samples suggested that **resistant bacterial strains can be found**
- in the human gut for as long as 1–4 years**

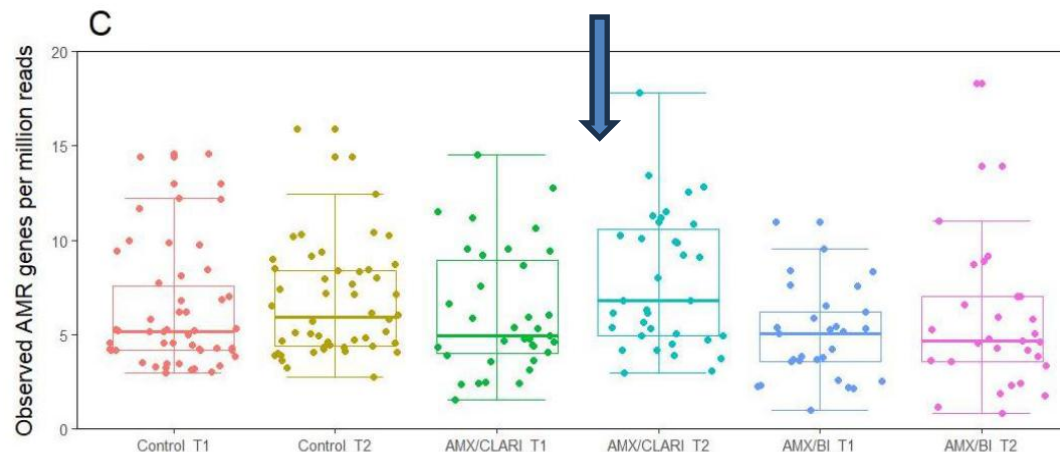
after clarithromycin-containing eradication treatment

Leja M, Dumpis U. *Dig Dis Sci* 2020;65:1632–42.

- Recent study from Taiwan reported that **resistome did not exceed the baseline level** **8 weeks** after **second-line therapies** with bismuth quadruple or levofloxacin-based sequential therapies

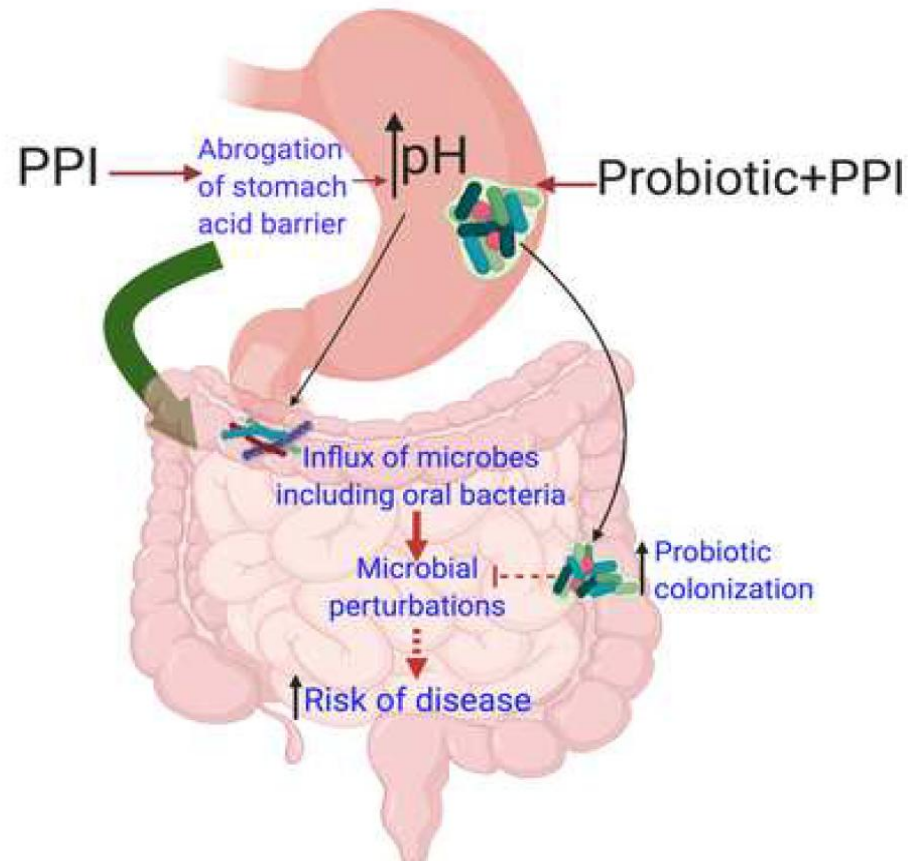
Liou J-M et al *Lancet Gastroenterol Hepatol* 2023;8:228–41

- Gut resistome remained increased for at least 6 months** after the 14-day clarithromycin-containing regimen, Sjomina O et al *Gut* 2023;0:1–2. doi:10.1136



Effect of gastric acid suppression on probiotic colonization in a double blinded randomized clinical trial

Singh G et al ., Clin Nutr ESPEN. 2022 Feb;47:70-77



Probiotics in combination with PPI might be a beneficial strategy that allows probiotic colonization and suppress PPI-induced microbial perturbations

The Effect of a Multispecies Probiotic on the Intestinal Microbiota and Bowel Movements in Healthy Volunteers Taking the Antibiotic Amoxycillin

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Omnibiotic 10 reduce scariche diarroiche del 48 % verso 79% (Placebo)

Wien klin Mag 2022 · 25:12–19
<https://doi.org/10.1007/s00740-022-00435-2>
Angenommen: 12. Januar 2022
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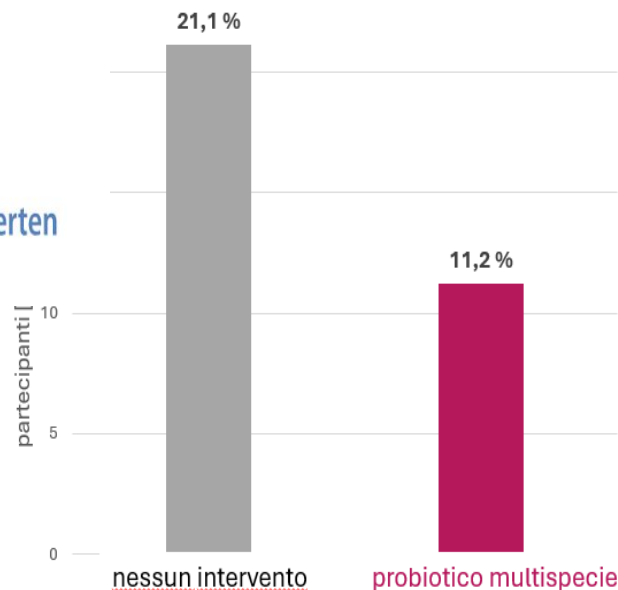
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Einsatz von Probiotika bei Antibiose

Prävention einer antibiotikaassoziierten Diarrhoe bei älteren Patienten



Nessun intervento: N=104; 22 hanno sofferto di AAD

Gruppo probiotico: N=98; 11 suffered from AAD

3 o più scariche di feci liquide (scala di Bristol 5–7) al giorno durante la terapia antibiotica

The future

**Probiotics instead of antibiotics for cure of
H.pylori infection?**

Take home

❖ *H.pylori Gastritis is an infectious disease and requires eradication whenever detected*

❖ WHO /IARC and Internationale Consensus Initiatives recommend H.pylori screen & treat for gastric cancer prevention

❖ H.pylori Gastritis and H.pylori eradication
with negative impact on Gut Microbiota

Take home 2

- H.pylori eradication induces gut microbiota dysbiosis**
- H.pylori eradication induces antibiotic resistance**
- reversibility of dysbiosis and antibiotic resistance occurs at variable time intervals depending on type of regimen**

Take home 3

- **Probiotics with small additional effect on H.pylori eradication efficacy**
- **Probiotics reduce side effects of eradication therapy, diarrhea and constipation**

for now primary reason for probiotics



- **Probiotic protect the Gut Microbiota from harmful effects of H.pylori eradication regimens**
- ***Probiotic protocols on their way for „cure“ of H.pylori infection***