2nd PUCRS International Digestive Endoscopy Symposium 17 Ju 2023

Controvérsias no manejo do *H.pylori* em 2023

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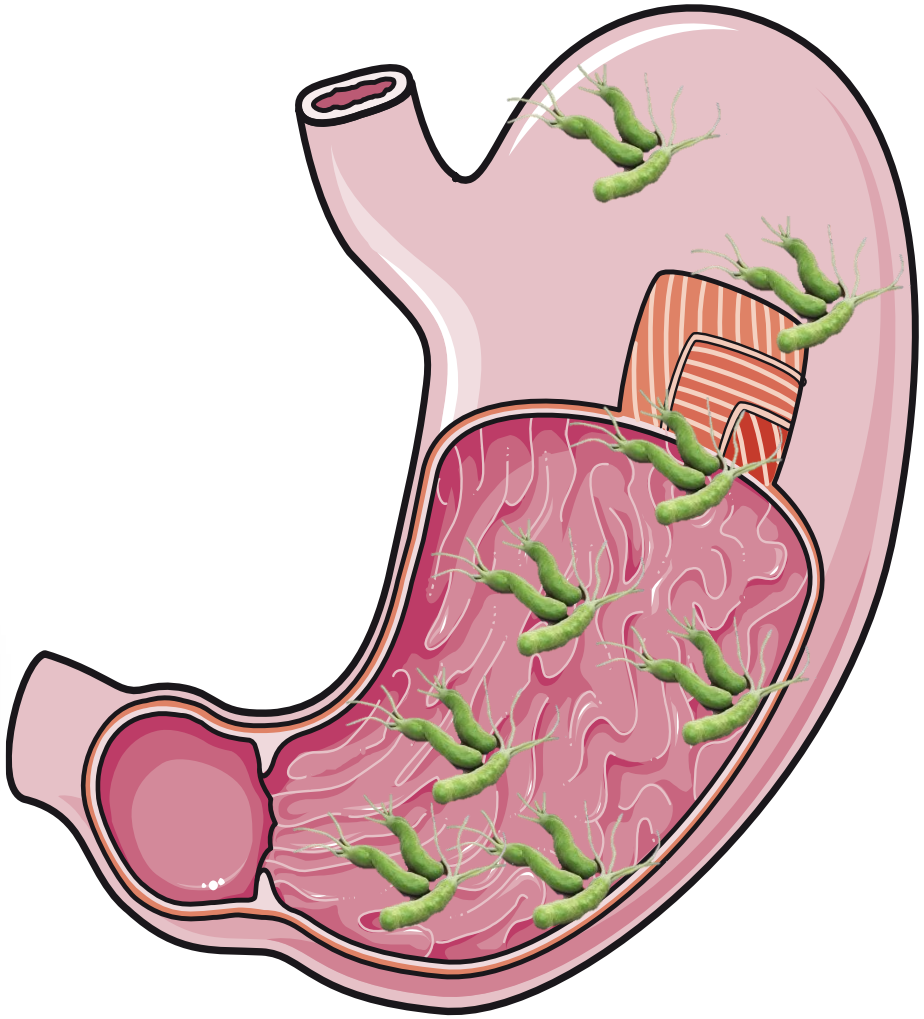
Universidad Nacional de Colombia
Hospital Universitario Nacional de Colombia



Management of *Helicobacter pylori* infection: the Maastricht VI/Florence consensus report

Peter Malfertheiner ,[1,2] Francis Megraud ,[3] Theodore Rokkas ,[4,5] Javier P Gisbert ,[6,7] Jyh-Ming Liou ,[8] Christian Schulz ,[1,9] Antonio Gasbarrini,[10] Richard H Hunt,[11,12] Marcis Leja ,[13,14] Colm O'Morain,[15] Massimo Rugge ,[16,17] Sebastian Suerbaum,[9,18] Herbert Tilg ,[19] Kentaro Sugano ,[20] Emad M El-Omar ,[21,22] On behalf of the European Helicobacter and Microbiota Study group

***Statement 1*: *H. pylori* infection always causes gastritis, irrespective of symptoms or complications.**

Agreement 100% **Grade A1**

Malfertheiner P, Maastricht VI, Gut 2020,Online agosto 8

Sintomáticos?

Erradicación *H.pylori*

Asintomáticos?

Houston Consensus Conference on Testing for *Helicobacter pylori* Infection in the United States

Hashem B. El-Serag,[*,‡] John Y. Kao,[§] Fasiha Kanwal,[*,‡,‖] Mark Gilger,[¶,#] Frank LoVecchio,[**] Steven F. Moss,[‡‡] Sheila Crowe,[§§] Adam Elfant,[‖‖] Thomas Haas,[¶¶] Ronald J. Hapke,[##] and David Y. Graham[*,‡]

Statement 1: We recommend that all patients with active *H pylori* infection be treated (100% agree/strongly agree, Grade 1A).

Clin Gastroenterol Hepatol 2018;16:992–1002

Kyoto global consensus report on *Helicobacter pylori* gastritis

Sugano K, et al. Gut 2015;64:1353–1367.

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

Fifth Chinese National Consensus Report on the management of *Helicobacter pylori* infection

Helicobacter 2018;e12475

Wen Zhong Liu[1] | Yong Xie[2] | Hong Lu[1] | Hong Cheng[3] | Zhi Rong Zeng[4] | Li Ya Zhou[5] | Ye Chen[6] | Jiang Bin Wang[7] | Yi Qi Du[8] | Nong Hua Lu[2] | on behalf of Chinese Society of Gastroenterology, Chinese Study Group on *Helicobacter pylori* and Peptic Ulcer

Screening and eradication of *Helicobacter pylori* for gastric cancer prevention: the Taipei global consensus

Jyh-Ming Liou,[1,2,3] Peter Malfertheiner,[4,5] Yi-Chia Lee,[1,2,6] Bor-Shyang Sheu,[7,8] Kentaro Sugano,[9] Hsiu-Chi Cheng,[7,10] Khay-Guan Yeoh,[11] Ping-I Hsu,[12] Khean-Lee Goh,[13] Varocha Mahachai,[14] Takuji Gotoda,[15] Wei-Lun Chang,[7] Mei-Jyh Chen,[1,2,16] Tsung-Hsien Chiang,[1,2,16] Chieh-Chang Chen,[1,2] Chun-Ying Wu,[17,18] Alex Hwong-Ruey Leow,[13] Jeng-Yih Wu,[8] Deng-Chyang Wu,[8] Tzu-Chan Hong,[1,2,19] Hong Lu,[20] Yoshio Yamaoka,[21,22] Francis Megraud,[23] Francis K L Chan,[24,25] Joseph JY Sung,[24,25] Jaw-Town Lin,[1,26] David Y Graham,[22] Ming-Shiang Wu,[1,2] Emad M El-Omar,[27,28] Asian Pacific Alliance on Helicobacter and Microbiota (APAHAM)

Liou J-M, et al. Gut 2020;69:2093–2112

Management of *Helicobacter pylori* infection: the Maastricht VI/Florence consensus report

Peter Malfertheiner,[1,2] Francis Megraud,[3] Theodore Rokkas,[4,5] Javier P Gisbert,[6,7] Jyh-Ming Liou,[8] Christian Schulz,[1,9] Antonio Gasbarrini,[10] Richard H Hunt,[11,12] Marcis Leja,[13,14] Colm O'Morain,[15] Massimo Rugge,[16,17] Sebastian Suerbaum,[9,18] Herbert Tilg,[19] Kentaro Sugano,[20] Emad M El-Omar,[21,22] On behalf of the European Helicobacter and Microbiota Study group

Malfertheiner P, Gut 2022 Online agosto 15

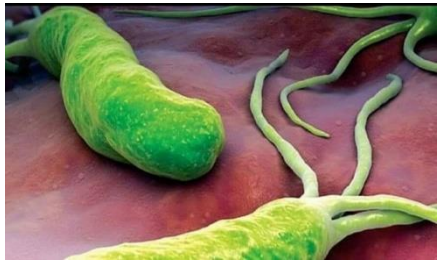
AGA Clinical Practice Update on the Diagnosis and Management of Atrophic Gastritis: Expert Review

Shailja C. Shah,[1,2] M. Blanca Piazuelo,[3] Ernst J. Kuipers,[4] and Dan Li[5,6]

PRACTICE ADVICE 6: All individuals with atrophic gastritis should be assessed for *H pylori* infection. If positive, treatment of *H pylori* should be administered and successful eradication should be confirmed using nonserological testing modalities.

Shah SC, Gastroenterology 2021;161:1325-32.

Solo al paciente o a la familia ?



Helicobacter pylori Infection Control and Management (2021 Edition)

Song-Ze Ding [1,2] Yi-Qi Du [3] Hong Lu [4] Wei-Hong Wang [5] Hong Cheng,[5] Shi-Yao Chen,[6] Min-Hu Chen,[7] Wei-Chang Chen,[8] Ye Chen,[9] Jing-Yuan Fang [10] Heng-Jun Gao,[11] Ming-Zhou Guo [12] Ying Han,[13] Xiao-Hua Hou [14] Fu-Lian Hu,[5] Bo Jiang,[15] Hai-Xing Jiang,[16] Chun-Hui Lan [17] Jing-Nan Li,[18] Yan Li,[19] Yan-Qing Li [20] Jie Liu,[21] You-Ming LI,[22] Bin Lyu,[23] You-Yong Lu,[24] Ying-Lei Miao,[25] Yong-Zhan Nie [26] Jia-Ming Qian,[18] Jian-Qiu Sheng [27] Cheng-Wei Tang [28] Fen Wang [29,30] Hua-Hong Wang,[5] Jiang-Bin Wang,[31] Jing-Tong Wang,[32] Jun-Ping Wang,[33] Xue-Hong Wang,[34] Kai-Chun Wu,[35] Xing-Zhou Xia,[36] Wei-Fen Xie [37] Yong Xie [38] Jian-Ming Xu,[39] Chang-Qing Yang,[40] Gui-Bin Yang [41] Yuan Yuan,[42] Zhi-Rong Zeng,[43] Bing-Yong Zhang,[1] Gui-Ying Zhang,[44] Guo-Xin Zhang [45] Jian-Zhong Zhang [46] Zhen-Yu Zhang [47] Peng-Yuan Zheng,[36] Yin Zhu,[48] Xiu-Li Zuo,[49] Li-Ya Zhou,[32] Nong-Hua Lyu,[38] Yun-Sheng Yang [12] Zhao-Shen Li [50] On behalf of the National Clinical Research Center for Digestive Diseases (Shanghai), Gastrointestinal Early Cancer Prevention & Treatment Alliance of China (GECA), Helicobacter pylori Study Group of Chinese Society of Gastroenterology, and Chinese Alliance for Helicobacter pylori Study

Chinese Consensus Report on Family-Based *Helicobacter pylori* Infection Control and Management (2021 Edition)

Song-Ze Ding [1,2] Yi-Qi Du [3] Hong Lu [4] Wei-Hong Wang [5] Hong Cheng,[5] Shi-Yao Chen,[6] Min-Hu Chen,[7] Wei-Chang Chen,[8] Ye Chen,[9] Jing-Yuan Fang [10] Heng-Jun Gao,[11] Ming-Zhou Guo [12] Ying Han,[13] Xiao-Hua Hou [14] Fu-Lian Hu,[5] Bo Jiang,[15] Hai-Xing Jiang,[16] Chun-Hui Lan [17] Jing-Nan Li,[18] Yan Li,[19] Yan-Qing Li [20] Jie Liu,[21] You-Ming LI,[22] Bin Lyu,[23] You-Yong Lu,[24] Ying-Lei Miao,[25] Yong-Zhan Nie [26] Jia-Ming Qian,[18] Jian-Qiu Sheng [27] Cheng-Wei Tang [28] Fen Wang [29,30] Hua-Hong Wang,[5] Jiang-Bin Wang,[31] Jing-Tong Wang,[32] Jun-Ping Wang,[33] Xue-Hong Wang,[34] Kai-Chun Wu,[35] Xing-Zhou Xia,[36] Wei-Fen Xie [37] Yong Xie [38] Jian-Ming Xu,[39] Chang-Qing Yang,[40] Gui-Bin Yang [41] Yuan Yuan,[42] Zhi-Rong Zeng,[43] Bing-Yong Zhang,[1] Gui-Ying Zhang,[44] Guo-Xin Zhang [45] Jian-Zhong Zhang [46] Zhen-Yu Zhang [47] Peng-Yuan Zheng,[36] Yin Zhu,[48] Xiu-Li Zuo,[49] Li-Ya Zhou,[32] Nong-Hua Lyu,[38] Yun-Sheng Yang [12] Zhao-Shen Li [50] On behalf of the National Clinical Research Center for Digestive Diseases (Shanghai), Gastrointestinal Early Cancer Prevention & Treatment Alliance of China (GECA), Helicobacter pylori Study Group of Chinese Society of Gastroenterology, and Chinese Alliance for Helicobacter pylori Study

CQ10. Is concurrent treatment of *H. pylori*-infected family members helpful to reduce the chance of reinfection among family members?

Statement 10: Concurrent treatment of *H. pylori*-infected family members is helpful to reduce the chance of reinfection after its eradication.

Evidence quality: moderate.

Recommendation strength: strong recommendation 65.7%, conditional recommendation 34.3%.

Consensus level: 81.5%.

ORIGINAL ARTICLE

Helicobacter WILEY

Whole family—based *Helicobacter pylori* eradication is a superior strategy to single-infected patient treatment approach: A systematic review and meta-analysis

Jun-Bo Zhao[1] | Lin Yuan[1] | Xue-Chun Yu[1] | Qiao-Qiao Shao[1] | Jing Ma[1] | Miao Yu[1] | Yue Wu[1] | Ya-Bin Qi[1] | Ruo-Bing Hu[1] | Pei-Ru Wei[1] | Bai-Ling Jia[1] | Lian-Zhong Zhang[2] | Yan-Rui Zhang[1] | Song-Ze Ding[1]

Zhao JB,et al. Helicobacter. 2021;26:e12793.

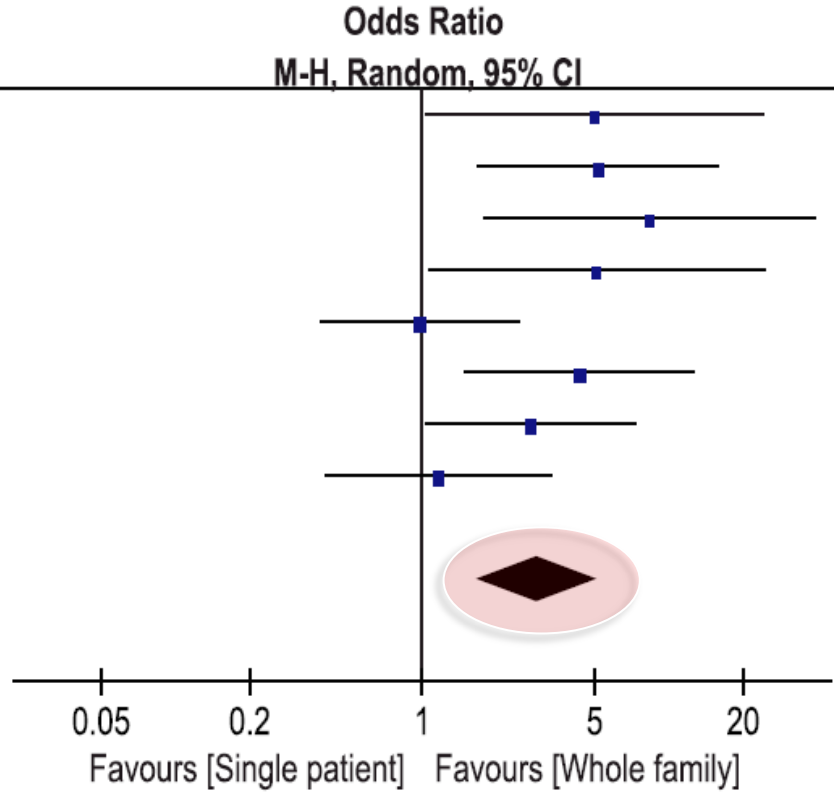
Erradicación

Análisis general

Study or Subgroup	Whole family group Events	Total	Single patient group Events	Total	Weight	Odds Ratio M-H, Random, 95% CI	Year
Chen 2003	40	42	40	50	8.7%	5.00 [1.03, 24.28]	2003
Rong 2012	92	96	80	98	13.4%	5.17 [1.68, 15.93]	2012
Sun 2013	49	51	38	51	9.0%	8.38 [1.78, 39.40]	2013
Cai 2013	69	71	61	70	8.8%	5.09 [1.06, 24.48]	2013
Rakici 2015	92	102	94	104	16.2%	0.98 [0.39, 2.46]	2015
Yang 2017	55	60	43	60	14.0%	4.35 [1.49, 12.73]	2017
Liang 2019	53	60	44	60	15.5%	2.75 [1.04, 7.29]	2019
Chen 2019	105	112	103	111	14.4%	1.17 [0.41, 3.33]	2019
Total (95% CI)		**594**		**604**	**100.0%**	**2.93 [1.68, 5.13]**	
Total events	555		503				

Heterogeneity: $Tau^2 = 0.28$; $Chi^2 = 12.52$, df = 7 (P = 0.08); $I^2 = 44\%$

Test for overall effect: Z = 3.78 (P = 0.0002)

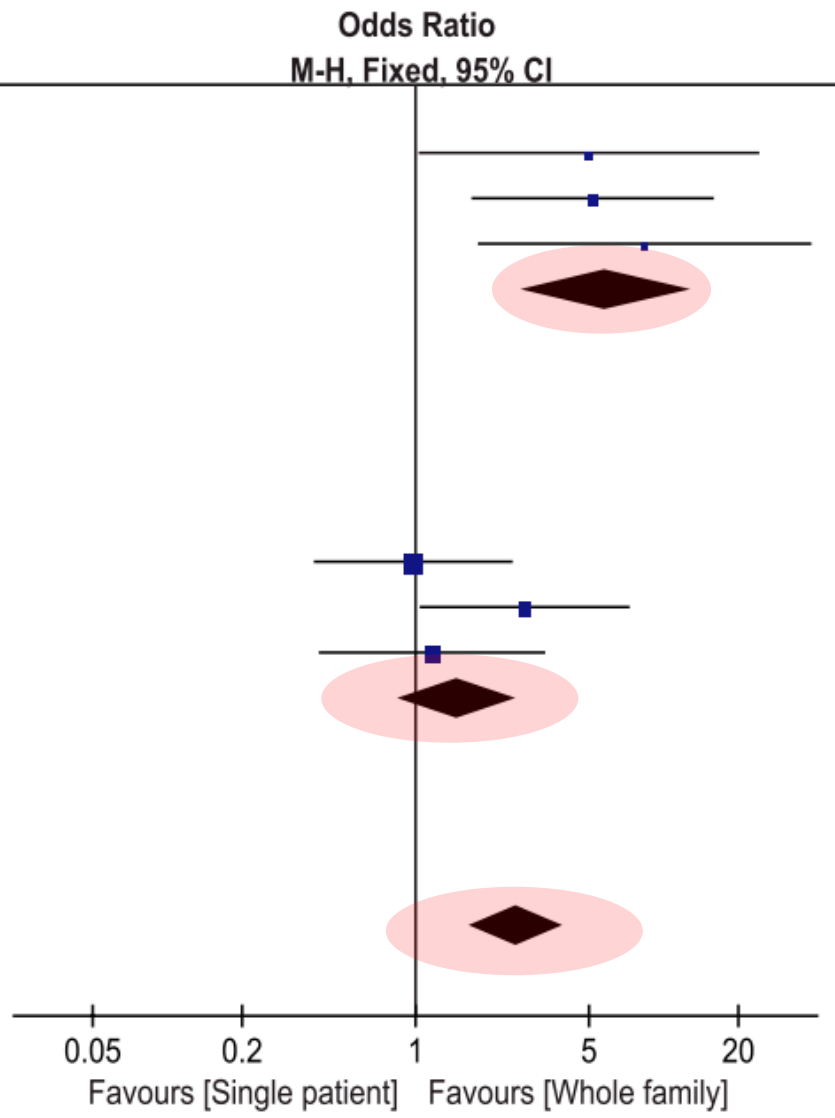


Zhao JB,et al. Helicobacter. 2021;26:e12793.

Erradicación

Análisis subgrupos

Study or Subgroup	Whole family group Events	Total	Single patient group Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI	Year
2.1.1 Children							
Chen 2003	40	42	40	50	6.4%	5.00 [1.03, 24.28]	2003
Rong 2012	92	96	80	98	12.1%	5.17 [1.68, 15.93]	2012
Sun 2013	49	51	38	51	5.5%	8.38 [1.78, 39.40]	2013
Subtotal (95% CI)		**189**		**199**	**24.0%**	**5.86 [2.67, 12.86]**	
Total events	181		158				
Heterogeneity: Chi² = 0.29, df = 2 (P = 0.86); I² = 0%							
Test for overall effect: Z = 4.41 (P < 0.0001)							
2.1.2 Spouse							
Rakici 2015	92	102	94	104	33.5%	0.98 [0.39, 2.46]	2015
Liang 2019	53	60	44	60	18.8%	2.75 [1.04, 7.29]	2019
Chen 2019	105	112	103	111	23.7%	1.17 [0.41, 3.33]	2019
Subtotal (95% CI)		**274**		**275**	**76.0%**	**1.48 [0.85, 2.57]**	
Total events	250		241				
Heterogeneity: Chi² = 2.53, df = 2 (P = 0.28); I² = 21%							
Test for overall effect: Z = 1.38 (P = 0.17)							
Total (95% CI)		**463**		**474**	**100.0%**	**2.53 [1.64, 3.90]**	
Total events	431		399				
Heterogeneity: Chi² = 10.76, df = 5 (P = 0.06); I² = 54%							
Test for overall effect: Z = 4.18 (P < 0.0001)							
Test for subgroup differences: Chi² = 7.89, df = 1 (P = 0.005), I² = 87.3%							



Zhao JB,et al. Helicobacter. 2021;26:e12793.

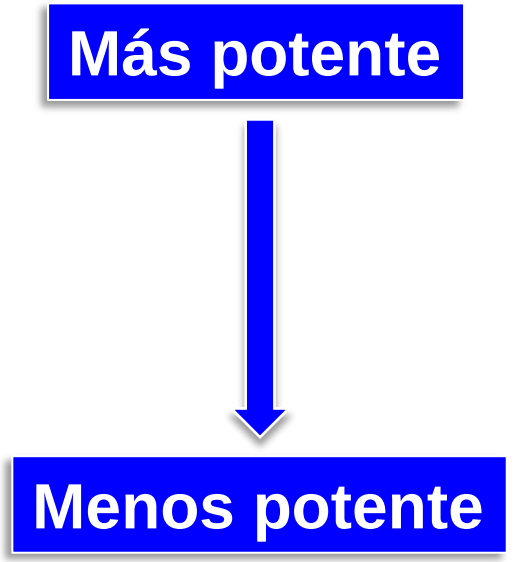
IBP son iguales ?

- Potencia
- Farmacognètica

Potencia relativa de los IBPs

Potencia de los IBPs comparados con omeprazol

Diferentes IBPs		Omeprazol mg
Rabeprazol	20 mg	36 mg
Esomeprazol	20 mg	32 mg
Omeprazol	20 mg	20 mg
Lansoprazol	20 mg	18 mg
Pantoprazol	20 mg	4.5 mg

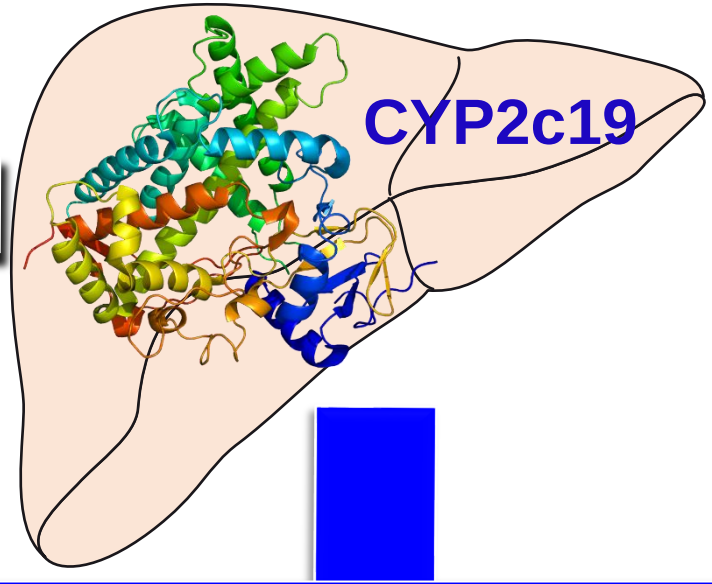


Graham DY, Clin Gastroenterol Hepatol. 2018;16:800-8

Farmacogenètica

Primera Generación
Omeprazol
Lansoprazol
Pantoprazol

Dependientes



Menos dependientes

Segunda Generación
Esomeprazol
Rabeprazol

El Rouby N, Exp Opin Drug Metab Toxicol 2018;14:447-60
Hagymàsi K, Pharmacogenomics 2011;12:873-88

Host Genetic Determinants Associated With *Helicobacter pylori* Eradication Treatment Failure: A Systematic Review and Meta-analysis

Shailja C. Shah,[1,2,3,4] Adam Tepler,[5] Cecilia P. Chung,[6,7] Giovanni Suarez,[3] Richard M. Peek Jr,[3] Adriana Hung,[8,9] Christianne Roumie,[8,10] and Neeraj Narula[11]

57 estudios
Pacífico Asiático (Japón 24, Taiwan 6, Korea 5, Tailandia 1)
Europa (Alemania 3, Polonia 3, Italia 1)
Sur américa (Brazil 2)

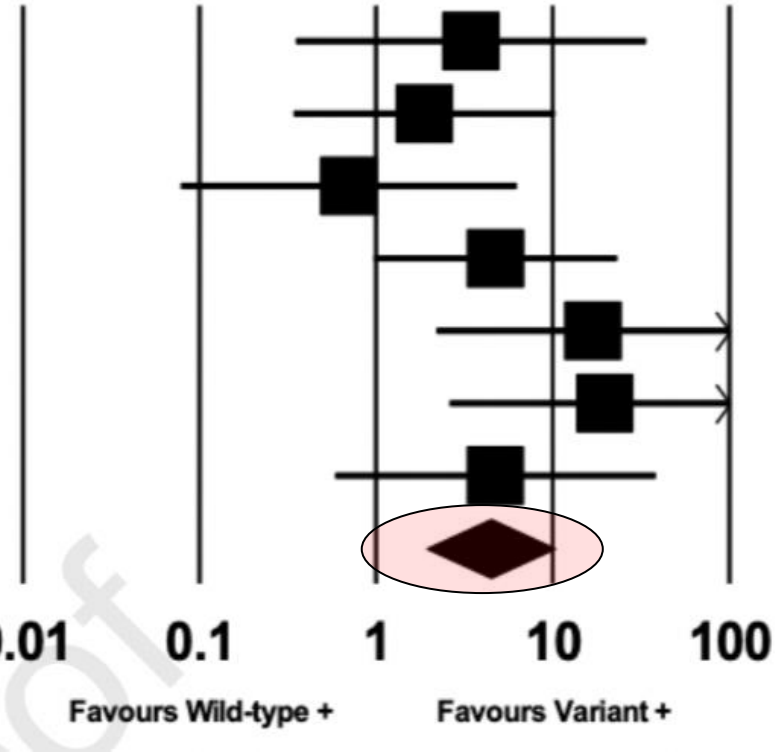
Gastroenterology 2021;161:1443–1459

Hpylori sensible a claritromicina o resistencia < 15% IBP primera generaciòn Lansoprazol, omeprazol pantoprazol Metabolizadores ràpidos

Study name	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value
Isomoto, 2003	3.438	0.352	33.612	1.061	0.289
Kawabata, 2004	1.875	0.342	10.269	0.725	0.469
Miki, 2003	0.700	0.079	6.224	-0.320	0.749
Sheu, 2005	4.742	0.975	23.062	1.929	0.054
Furuta, 2001	16.875	2.202	129.312	2.720	0.007
Furuta, 2004	19.753	2.617	149.103	2.893	0.004
Kang, 2008	4.738	0.589	38.140	1.462	0.144
	4.443	1.944	10.157	3.535	0.000

Statistics for each study

Odds ratio and 95% CI



Riesgo de Falla terapùtica

Shah SC, Gastroenterology 2021;161:1443–1459

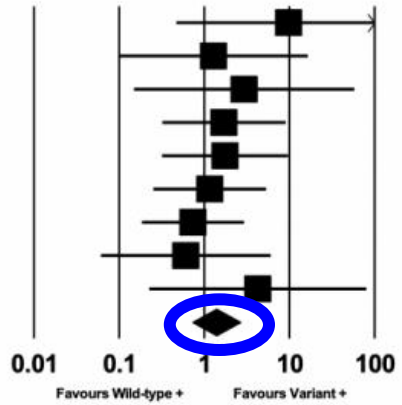
Ràpidos versus Pobres metabolizadors

Esomeprazol 9 estudios

Rabeprazol 18 estudios

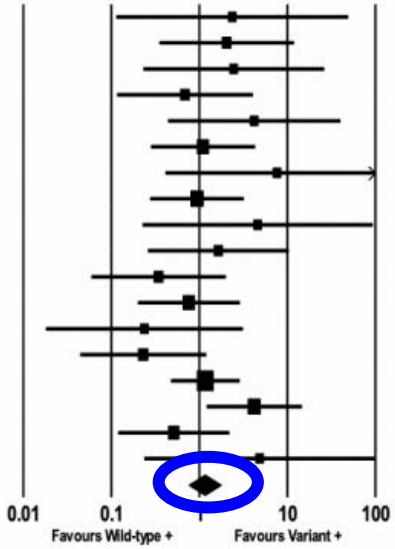
2B.

Study name	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value
Pan, 2010	9.783	0.473	202.374	1.475	0.140
Pan*, 2010	1.286	0.101	16.340	0.194	0.846
Miehlke, 2008	2.941	0.150	57.555	0.711	0.477
Sheu, 2005	1.705	0.323	9.007	0.628	0.530
Wu, 2011	1.750	0.321	9.554	0.646	0.518
Song, 2016	1.159	0.253	5.304	0.191	0.849
Okimoto, 2016	0.735	0.186	2.908	-0.438	0.661
Liou, 2011	0.606	0.061	5.985	-0.429	0.668
Kang, 2008	4.248	0.227	79.518	0.968	0.333
	1.387	0.723	2.662	0.984	0.325



2C.

Study name	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value
Isomoto*, 2003 - 7 days	2.368	0.114	49.041	0.558	0.577
Isomoto*, 2003 - 14 days	2.045	0.354	11.820	0.800	0.424
Yang, 2009	2.462	0.232	26.114	0.748	0.455
Pan, 2010	0.688	0.117	4.056	-0.414	0.679
Inaba, 2002	4.200	0.442	39.943	1.249	0.212
Miyoshi, 2001	1.100	0.283	4.282	0.137	0.891
Lay, 2010	7.638	0.414	140.829	1.367	0.172
Okimoto, 2016	0.942	0.278	3.189	-0.096	0.924
Lin, 2017	4.600	0.227	93.032	0.995	0.320
Dojo, 2001	1.647	0.262	10.359	0.532	0.595
Miki, 2003	0.345	0.060	1.993	-1.190	0.234
Lee, 2003	0.762	0.201	2.884	-0.400	0.689
Phiphatpatthamaamphan, 2016	0.238	0.018	3.121	-1.093	0.274
Kawabata, 2003	0.231	0.045	1.197	-1.746	0.081
Lee, 2010*	1.169	0.478	2.862	0.343	0.732
Kuwayama, 2007	4.211	1.216	14.585	2.268	0.023
Hokari, 2001	0.513	0.120	2.190	-0.902	0.367
Jiang, 2005	4.846	0.237	98.960	1.025	0.305
	1.153	0.761	1.748	0.674	0.501



Shah SC, Gastroenterology 2021;161:1443–1459

Influence of *Cytochrome P450 2C19* Genotype on *Helicobacter pylori* Proton Pump Inhibitor-Amoxicillin-Clarithromycin Eradication Therapy: A Meta-Analysis

OPEN ACCESS

Edited by:

Yuko Morino[1], Mitsushige Sugimoto[2], Naoyoshi Nagata[2], Ryota Niikiura[2], Eri Iwata[2], Mariko Hamada[2], Yusuke Kawai[2], Tatsuhiro Fujimiya[3], Hironori Takeuchi[4], Sakae Unezaki[3] and Takashi Kawai[2]*

25 ensayos clínicos controlados aleatorizados

24 ASIA, 1 Suramérica (Colombia), 5318 pacientes, Tasa resistencia: Amoxi 8.9%, Cla 13%

Morino Y, Front Pharmacol 2021;12:759240

Influence of *Cytochrome P450 2C19* Genotype on *Helicobacter pylori* Proton Pump Inhibitor-Amoxicillin-Clarithromycin Eradication Therapy: A Meta-Analysis

Yuko Morino[1], Mitsushige Sugimoto[2], Naoyoshi Nagata[2], Ryota Niikiura[2], Eri Iwata[2], Mariko Hamada[2], Yusuke Kawai[2], Tatsuhiro Fujimiya[3], Hironori Takeuchi[4], Sakae Unezaki[3] and Takashi Kawai[2]*

Extensos metabolizadores

Lansoprazol y omeprazol
Menor tasa erradicación

Esomeprazol y rapeprazol
No son influidos

Morino Y, Front Pharmacol 2021;12:759240

Lo probióticos aumentan la eficacia de los antibióticos?

Efectividad y seguridad del uso de probióticos como adyuvantes en la erradicación de *Helicobacter pylori.* Revisión sistemática y metaanálisis

Efficacy and safety of using probiotics as adjuvants in the eradication of *Helicobacter pylori*. Systematic review and meta-analysis

Título corto: Probióticos y *Helicobacter pylori*

Running title: Probiotics and *Helicobacter pylori*

Recibido: 22/07/2021 Aceptado: 06/04/2022

Gilberto Jaramillo-Trujillo[1], William Alberto Otero-Regino[1], Kelly Patricia Estrada-Orozco[2]

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2 Universidad Nacional de Colombia - Sede Bogotá - Facultad de Medicina - Instituto de Investigaciones Clínicas - Bogotá D.C. - Colombia.

Correspondencia: William Alberto Otero-Regino. Departamento de Gastroenterología, Facultad de Medicina, Universidad Nacional de Colombia. Bogotá D.C. Colombia. Correo electrónico: waoteror@gmail.com.

William Alberto Otero-Regino: ORCID https://orcid.org/0000-0002-6825-

Jaramillo G, Otero W, Estrada K
Rev Fac Med 2023 On line Mayo 1

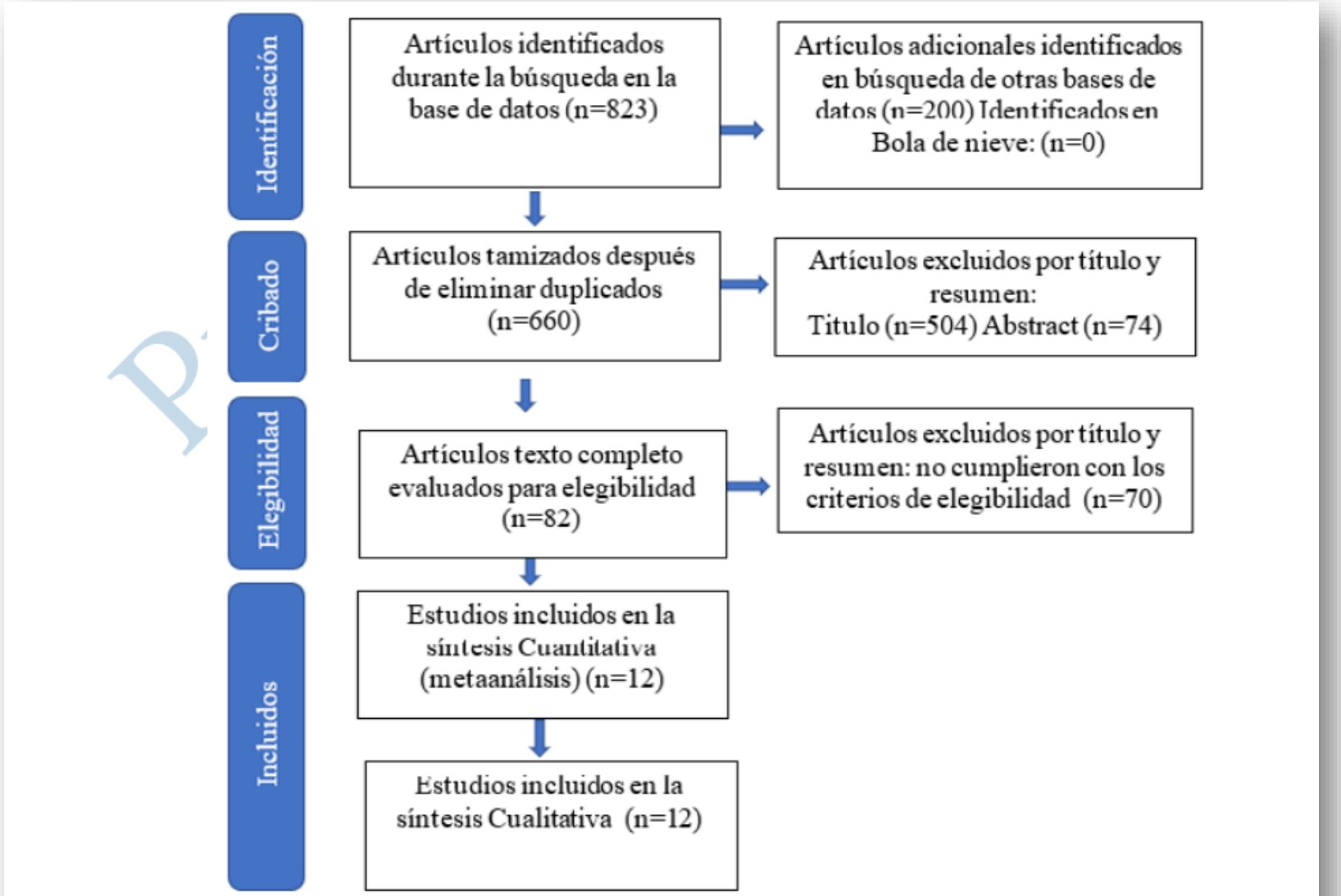


Figura 1. Flujograma de los estudios identificados y seleccionados.

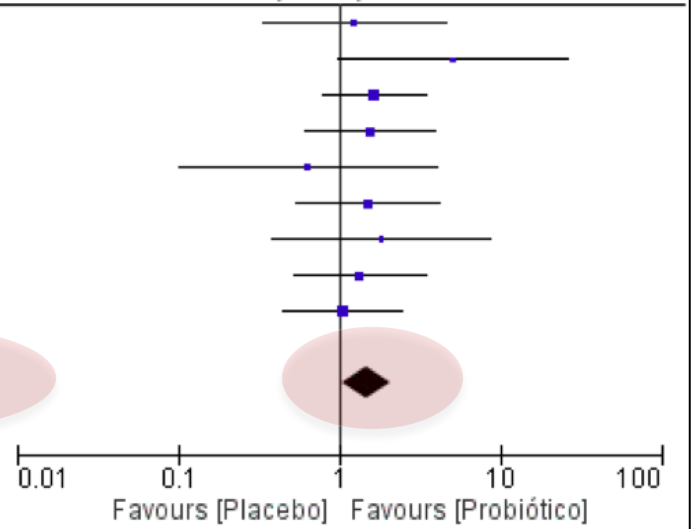
Jaramillo G, Otero W, Estrada K
Rev Fac Med 2022 On line Mayo 1

Curación de *H. pylori* en terapia triple

Study or Subgroup	PROBIOTICO Events	Total	PLACEBO Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Armuzzi, 2001	25	30	24	30	7.6%	1.25 [0.34, 4.64]
Chitapanaru, 2015	28	30	22	30	2.8%	5.09 [0.98, 26.43]
Cindoruk, 2007	44	62	37	62	20.5%	1.65 [0.78, 3.49]
Francavilla, 2014	33	44	29	44	13.8%	1.55 [0.62, 3.91]
McNicholl, 2018	31	34	32	34	5.4%	0.65 [0.10, 4.13]
Mohamed,2014	26	35	23	35	11.3%	1.51 [0.54, 4.22]
Myllyuoma, 2005	21	24	19	24	4.5%	1.84 [0.39, 8.77]
Navarro, 2013	45	55	40	52	14.2%	1.35 [0.53, 3.46]
Nista, 2004	39	54	37	52	19.9%	1.05 [0.45, 2.45]
Total (95% CI)		**368**		**363**	**100.0%**	**1.48 [1.05, 2.09]**
Total events	292		263			

Heterogeneity: Chi² = 3.82, df = 8 (P = 0.87); I² = 0%

Test for overall effect: Z = 2.21 (P = 0.03)

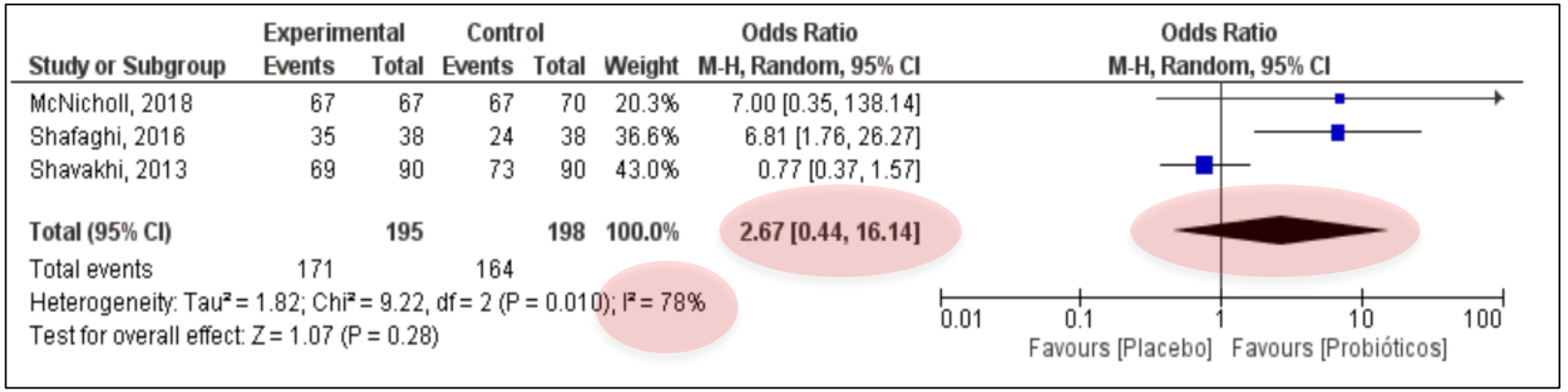


Aumento de efectividad 8.3%

71.1%. Vs 79.4% NO *logró 90-95%*

Jaramillo G, Otero W, Estrada K
Rev Fac Med 2022 On line Mayo 1

Erradicación de *H. pylori* terapia cuádruple



Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Odds Ratio M-H, Random, 95% CI
McNicholl, 2018	67	67	67	70	20.3%	7.00 [0.35, 138.14]
Shafaghi, 2016	35	38	24	38	36.6%	6.81 [1.76, 26.27]
Shavakhi, 2013	69	90	73	90	43.0%	0.77 [0.37, 1.57]
Total (95% CI)		**195**		**198**	**100.0%**	**2.67 [0.44, 16.14]**
Total events	171		164			

Heterogeneity: Tau² = 1.82; Chi² = 9.22, df = 2 (P = 0.010); I² = 78%

Test for overall effect: Z = 1.07 (P = 0.28)

Jaramillo G, Otero W, Estrada K
Rev Fac Med 2022 On line Mayo 1

In press publication

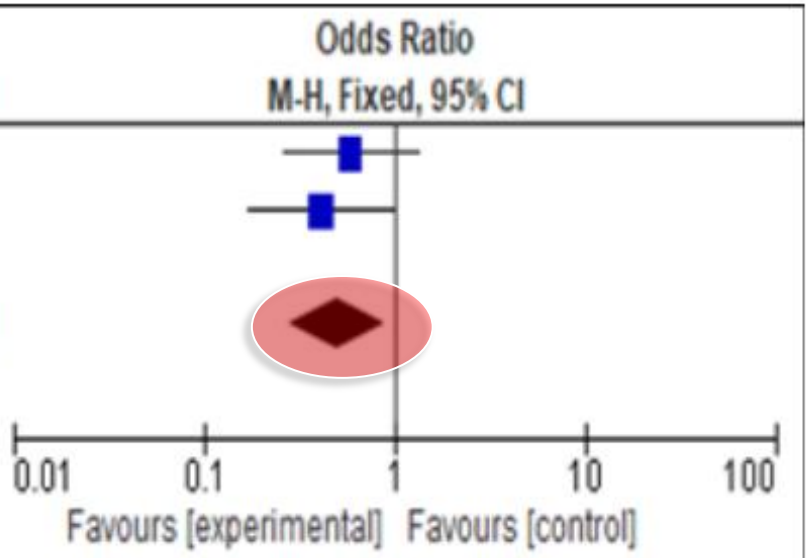
rfm
Revista de la Facultad de Medicina

Rev. Fac. Med.

Study or Subgroup	Probiótico Events	Total	Placebo Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Navarro et al. 2013 (29)	32	54	37	52	48.8%	0.59 [0.26, 1.32]
Francavilla et al. 2014 (25)	18	44	27	43	51.2%	0.41 [0.17, 0.97]
Total (95% CI)		98		95	100.0%	0.50 [0.28, 0.90]
Total events	50		64			

Heterogeneity: Chi² = 0.36, df = 1 (P = 0.55); I² = 0%

Test for overall effect: Z = 2.32 (P = 0.02)



Efectos adversos con terapia triple

Management of *Helicobacter pylori* infection: the Maastricht VI/Florence consensus report

Peter Malfertheiner ,[1,2] Francis Megraud ,[3] Theodore Rokkas ,[4,5] Javier P Gisbert ,[6,7] Jyh-Ming Liou ,[8] Christian Schulz ,[1,9] Antonio Gasbarrini,[10] Richard H Hunt,[11,12] Marcis Leja ,[13,14] Colm O'Morain,[15] Massimo Rugge ,[16,17] Sebastian Suerbaum,[9,18] Herbert Tilg ,[19] Kentaro Sugano ,[20] Emad M El-Omar ,[21,22] On behalf of the European Helicobacter and Microbiota Study group

Statement 7: Certain probiotics may have a beneficial effect on _H. pylori_ eradication therapy through reduction of antibiotic-related side effects

Agreement 80% **Grade B2**

Consequently, more data are still necessary to assess the direct efficacy of probiotics against *H. pylori*.

Malfertheiner P, Maastricht VI, Gut 2020,Online agosto 8

Gastroenterology 2021;160:1831–1841

CLINICAL PRACTICE UPDATE

AGA Clinical Practice Update on the Management of Refractory *Helicobacter pylori* Infection: Expert Review

Shailja C. Shah,[1,2,3] Prasad G. Iyer,[4] and Steven F. Moss[5]

Best Practice Advice 12: Proposed adjunctive therapies, including probiotics, are of unproven benefit as treatment for refractory *H pylori* infection, and thus, their use should be considered experimental.

The Toronto Consensus for the Treatment of *Helicobacter pylori* Infection in Adults

2016

Carlo A. Fallone,[1] Naoki Chiba,[2,3] Sander Veldhuyzen van Zanten,[4] Lori Fischbach, Javier P. Gisbert,[6] Richard H. Hunt,[3,7] Nicola L. Jones,[8] Craig Render,[9] Grigorios I. Leontiadis,[3,7] Paul Moayyedi,[3,7] and John K. Marshall[3,7]

Management of *Helicobacter pylori* infection—the Maastricht V/Florence Consensus Report

2017

P Malfertheiner,[1] F Megraud,[2] C A O'Morain,[3] J P Gisbert,[4,5] E J Kuipers,[6] F Bazzoli,[8] A Gasbarrini,[9] J Atherton,[10] D Y Graham,[11] T Rokkas,[15] M Rugge,[16] M Selgrad,[17] on behalf of the Europ

ACG

2021

Javier P. Gisbert[1], Javier Alcedo[2], Javier Amador[3], Luis Bujanda[4], Xavier Calvet[5], Manuel Castro-Fernández[6], Luis Fernández-Salazar[7], Emili Gené[8], Ángel Lanas[9], Alfredo J. Lucendo[10], Javier Molina-Infante[11], Olga P. Nyssen[1], A. Pérez-Aisa[12] e Ignasi Puig[13]

Ninguna guìa los Recomienda por ahora

Helicobacter pylori

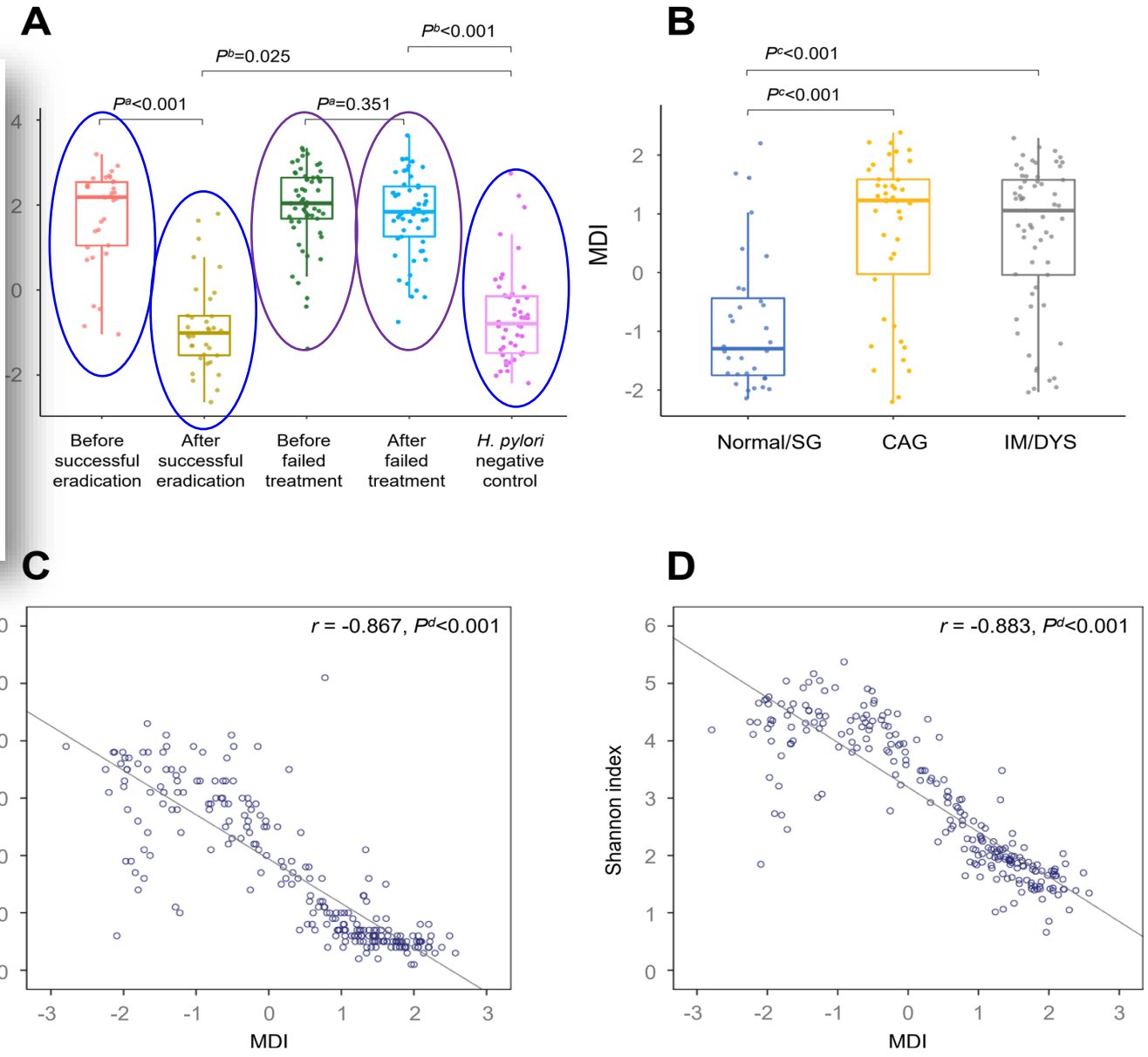
Los antibióticos alteran el microbioma

Cura de *H.pylori* y microbiota

ORIGINAL RESEARCH

Effect of *Helicobacter pylori* on gastrointestinal microbiota: a population-based study in Linqu, a high-risk area of gastric cancer

Yang Guo,[1] Yang Zhang ,[1,2] Markus Gerhard,[2,3,4] Juan-Juan Gao,[1] Raquel Mejias-Luque,[2,3,4] Lian Zhang,[1] Michael Vieth,[2,5] Jun-Ling Ma,[1] Monther Bajbouj,[2,6] Stepan Suchanek,[2,7] Wei-Dong Liu,[8] Kurt Ulm,[2,9] Michael Quante ,[2,6] Zhe-Xuan Li,[1,2] Tong Zhou,[1] Roland Schmid,[2,6] Meinhard Classen,[2,6] Wen-Qing Li,[1,2] Wei-Cheng You,[1,2] Kai-Feng Pan[1,2]



Guo Y, et al. Gut 2020;69:1598–1607

Como toda infección
Pruebas susceptibilidad

Tratamiento

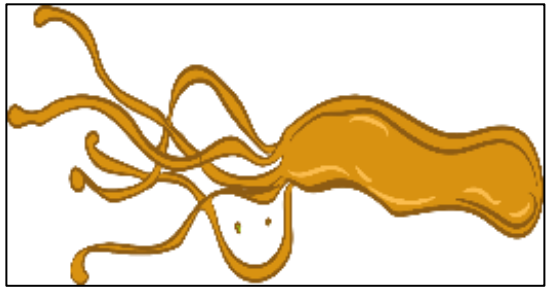
Enfermedades infecciosas

Susceptibilidad

98-100%

Helicobacter pylori

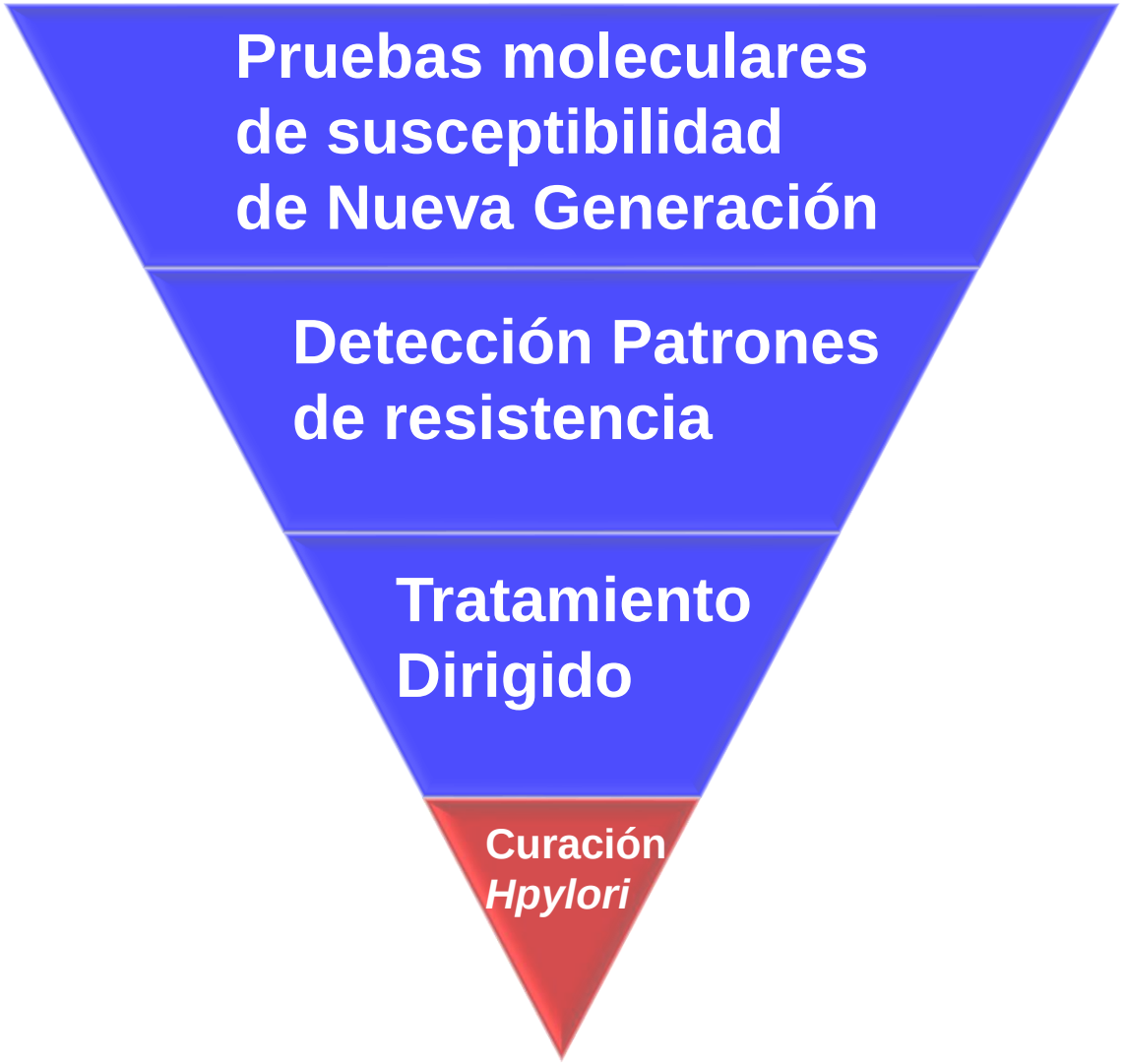
Empírica ensayo-error



80-90%

Graham DY, Ther Adv Gastroenterol 2023;16:1-6

Nuevo paradigma



Garrido-Teviño LF, et al Rev Gastroenterol Mex 2022, Junio 15

Las Terapias basadas en susceptibilidad

Siempre eficacia 95%

Current role of tailored therapy in treating *Helicobacter pylori* infections. A systematic review, meta-analysis and critical analysis

Theodore Rokkas[1,2] | Konstantine Ekmektzoglou[1,2] | David Y. Graham[3]

34 estudios

Tipo terapia	Éxito < 90%	> 90%	>95%
Guiada Susceptibilidad	56%	44.1% 15/34 estudios	17.6% 6/34 estudios
Empírica	85%	14.7% (5/34) Estudios	0 estudios

Guida y empírica deben optimizarse Dosis, duración CYP2c19

Rokkas T, Helicobacter 2023;28:e12936

Empirical vs. Susceptibility-Guided Treatment of *Helicobacter pylori* Infection: A Systematic Review and Meta-Analysis

Olga P. Nyssen [1,2,3], *Marta Espada* [1,2,3] *and Javier P. Gisbert* [1,2,3]*

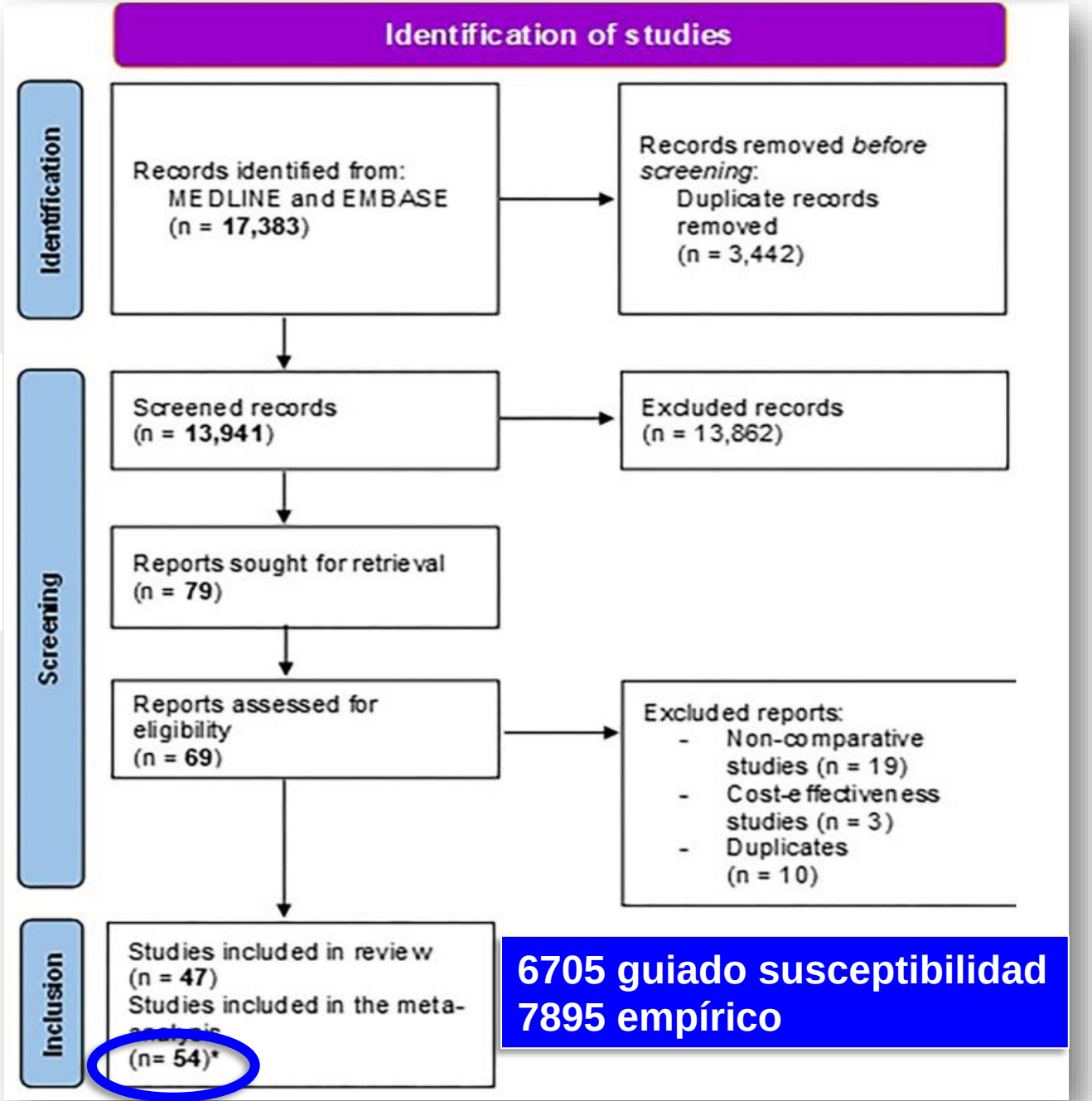
[1] *Gastroenterology Unit, Instituto de Investigación Sanitaria Princesa (IIS-Princesa), Hospital Universitario de La Princesa, Madrid, Spain,* [2] *Universidad Autónoma de Madrid (UAM), Madrid, Spain,* [3] *Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBEREHD), Madrid, Spain*

Nyssen OP, Front Microbiol 2022;13: Article 913436

Empirical vs. Susceptibility-Guided Treatment of *Helicobacter pylori* Infection: A Systematic Review and Meta-Analysis

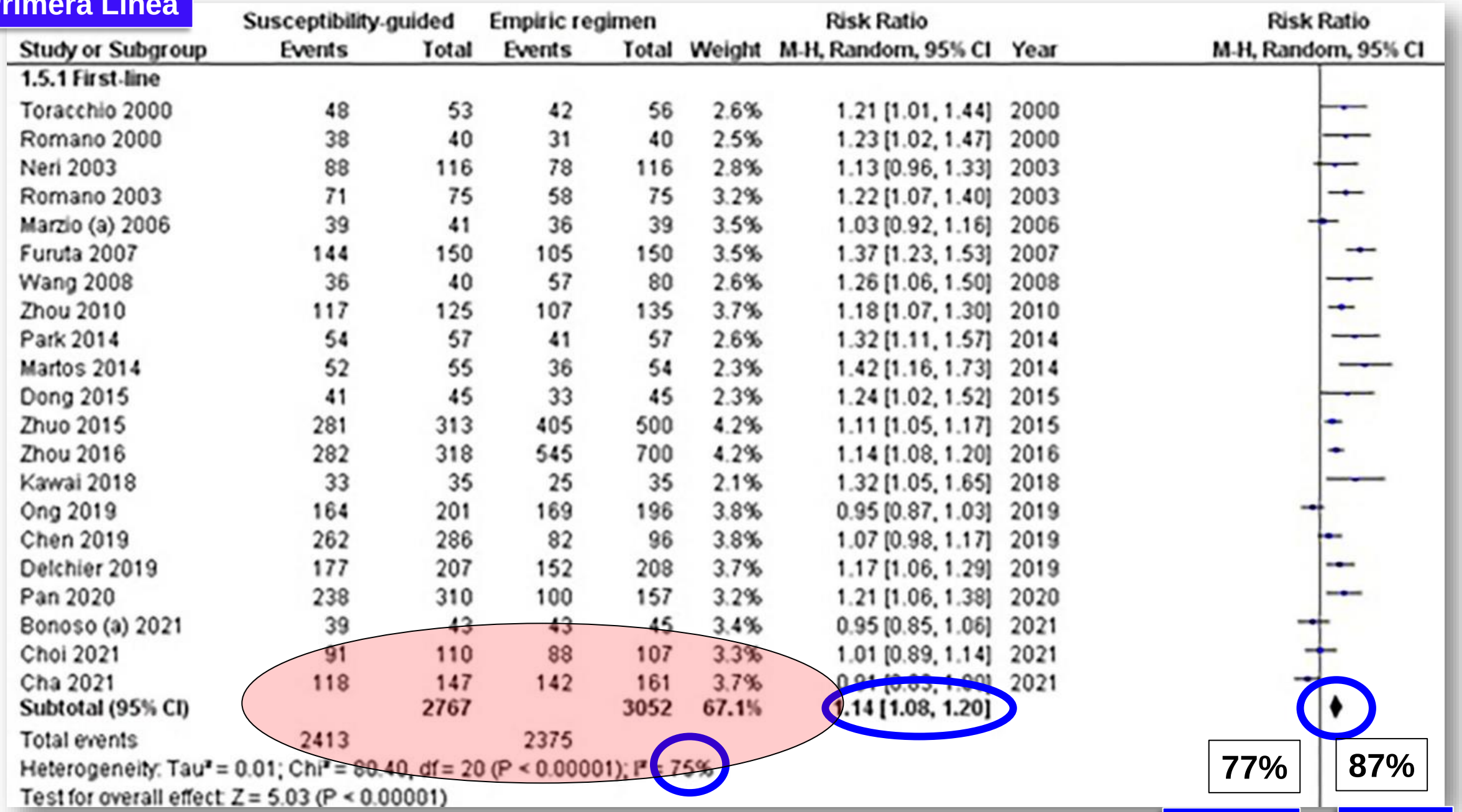
*Olga P. Nyssen [1,2,3], Marta Espada [1,2,3] and Javier P. Gisbert [1,2,3]**

[1] *Gastroenterology Unit, Instituto de Investigación Sanitaria Princesa (IIS-Princesa), Hospital Universitario de La Princesa, Madrid, Spain,* [2] *Universidad Autónoma de Madrid (UAM), Madrid, Spain,* [3] *Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBEREHD), Madrid, Spain*



Nyssen OP, Front Microbiol 2022;13: Article 913436

Primera Línea



Study or Subgroup	Susceptibility-guided Events	Total	Empiric regimen Events	Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
1.5.1 First-line							
Toracchio 2000	48	53	42	56	2.6%	1.21 [1.01, 1.44]	2000
Romano 2000	38	40	31	40	2.5%	1.23 [1.02, 1.47]	2000
Neri 2003	88	116	78	116	2.8%	1.13 [0.96, 1.33]	2003
Romano 2003	71	75	58	75	3.2%	1.22 [1.07, 1.40]	2003
Marzio (a) 2006	39	41	36	39	3.5%	1.03 [0.92, 1.16]	2006
Furuta 2007	144	150	105	150	3.5%	1.37 [1.23, 1.53]	2007
Wang 2008	36	40	57	80	2.6%	1.26 [1.06, 1.50]	2008
Zhou 2010	117	125	107	135	3.7%	1.18 [1.07, 1.30]	2010
Park 2014	54	57	41	57	2.6%	1.32 [1.11, 1.57]	2014
Martos 2014	52	55	36	54	2.3%	1.42 [1.16, 1.73]	2014
Dong 2015	41	45	33	45	2.3%	1.24 [1.02, 1.52]	2015
Zhuo 2015	281	313	405	500	4.2%	1.11 [1.05, 1.17]	2015
Zhou 2016	282	318	545	700	4.2%	1.14 [1.08, 1.20]	2016
Kawai 2018	33	35	25	35	2.1%	1.32 [1.05, 1.65]	2018
Ong 2019	164	201	169	196	3.8%	0.95 [0.87, 1.03]	2019
Chen 2019	262	286	82	96	3.8%	1.07 [0.98, 1.17]	2019
Delchier 2019	177	207	152	208	3.7%	1.17 [1.06, 1.29]	2019
Pan 2020	238	310	100	157	3.2%	1.21 [1.06, 1.38]	2020
Bonoso (a) 2021	39	43	43	45	3.4%	0.95 [0.85, 1.06]	2021
Choi 2021	91	110	88	107	3.3%	1.01 [0.89, 1.14]	2021
Cha 2021	118	147	142	161	3.7%	[illegible]	2021
Subtotal (95% CI)		**2767**		**3052**	**67.1%**	**1.14 [1.08, 1.20]**	
Total events	2413		2375				
Heterogeneity: Tau² = 0.01; Chi² = [illegible], df = 20 (P < 0.00001); I² = 75%							
Test for overall effect: Z = 5.03 (P < 0.00001)							

Risk Ratio M-H, Random, 95% CI

77%

87%

Empírica

Guiada

Nyssen OP,et al. Front Microbiol 2022;13:Art 913436.

Empirical vs. Susceptibility-Guided Treatment of *Helicobacter pylori* Infection: A Systematic Review and Meta-Analysis

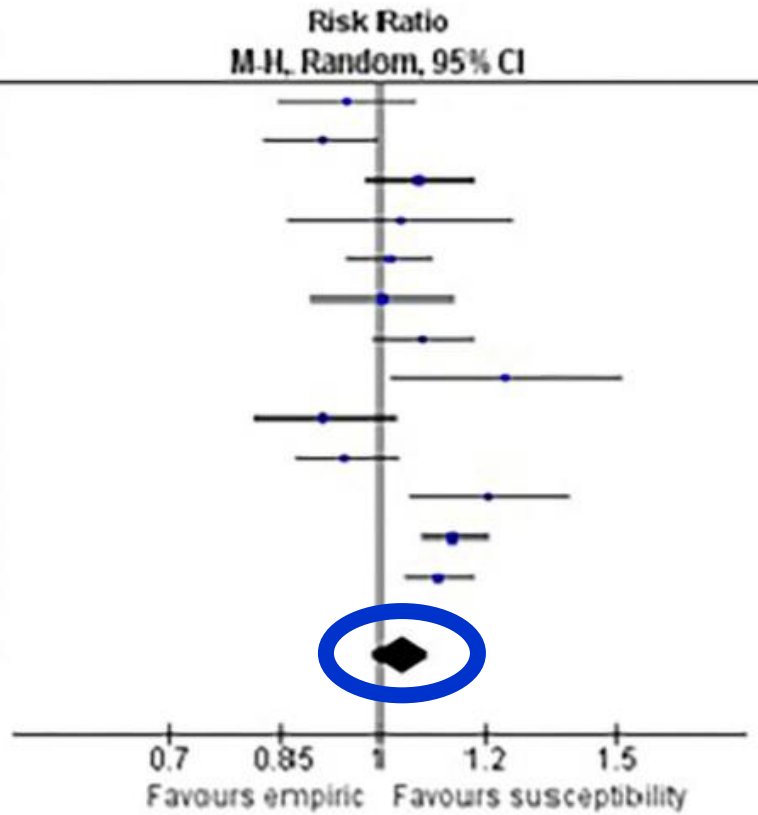
*Olga P. Nyssen [1,2,3], Marta Espada [1,2,3] and Javier P. Gisbert [1,2,3]**

Cuádruple con o sin Bismuto

Study or Subgroup	Susceptibility-guided Events	Total	Empiric regimen Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
Bonoso (a) 2021	39	43	43	45	7.3%	0.95 [0.85, 1.06]
Cha 2021	118	147	142	161	8.1%	0.91 [0.83, 1.00]
Chen 2019	262	286	82	96	8.5%	1.07 [0.98, 1.17]
Choe (c) 2021	55	60	15	17	4.4%	1.04 [0.86, 1.26]
Choi 2019	48	50	98	104	9.3%	1.02 [0.95, 1.10]
Choi 2021	91	110	88	107	6.9%	1.01 [0.89, 1.14]
Cosme 2016	98	104	103	118	8.8%	1.08 [0.99, 1.17]
Dong 2015	41	45	33	45	4.1%	1.24 [1.02, 1.52]
Molina-Infante 2012	69	87	182	209	7.0%	0.91 [0.81, 1.03]
Ong 2019	164	201	169	196	8.7%	0.95 [0.87, 1.03]
Pan 2020	238	310	100	157	6.4%	1.21 [1.06, 1.38]
Zhou 2016	282	318	545	700	10.3%	1.14 [1.08, 1.20]
Zhuo 2015	281	313	405	500	10.2%	1.11 [1.05, 1.17]
Total (95% CI)		**2074**		**2455**	**100.0%**	**1.04 [0.99, 1.09]**
Total events	1786		2005			

Heterogeneity: Tau² = 0.01; Chi² = 42.74, df = 12 (P < 0.0001); I² = 72%

Test for overall effect: Z = 1.51 (P = 0.13)



Nyssen OP,et al. Front Microbiol 2022;13:Art 913436.

Segunda Línea

Tercera Línea

Todas rescate

1.5.2 Second-line

Avidan 2001	5	5	5	5	1.2%	1.00 [0.71, 1.41]	2001
Lamouliatte 2003	84	113	83	172	2.4%	1.54 [1.28, 1.86]	2003
Miwa 2003	31	38	36	39	2.6%	0.88 [0.74, 1.05]	2003
Marzio (b) 2006	50	51	26	32	2.7%	1.21 [1.02, 1.43]	2006
Bonoso(b) 2021	8	9	6	6	1.3%	0.92 [0.66, 1.28]	2021
Subtotal (95% CI)		**216**		**254**	**10.2%**	**1.10 [0.85, 1.41]**	
Total events	178		156				

Heterogeneity: Tau² = 0.07; Chi² = 25.15, df = 4 (P < 0.0001); I² = 84%

Test for overall effect: Z = 0.73 (P = 0.47)

1.5.3 Third-line

Liou (a) 2018	17	21	12	20	0.9%	1.35 [0.89, 2.04]	2018
Liou (b) 2018	160	205	148	205	3.5%	1.08 [0.97, 1.21]	2018
Bonoso (c) 2021	1	1	2	4	0.1%	1.50 [0.46, 4.91]	2021
Subtotal (95% CI)		**227**		**229**	**4.5%**	**1.10 [0.99, 1.23]**	
Total events	178		162				

Heterog

Test for

1.5.4 All

Avidan 2

Miwa 20

Lamouli

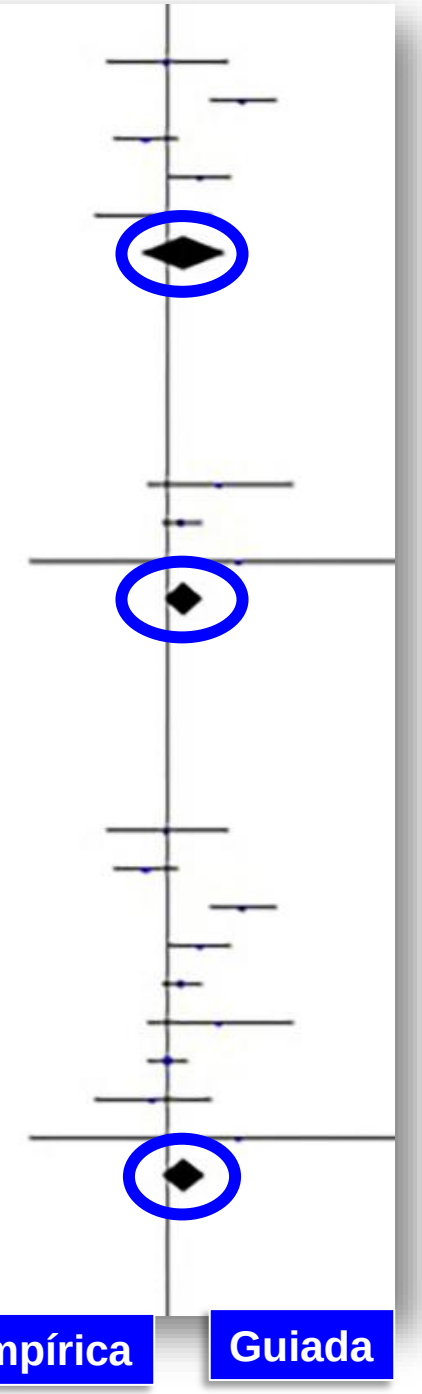
Marzio (b) 2006 50 51 26 32 2.7% 1.21 [1.02, 1.43] 2006

Liou (b) 2018	160	205	148	205	3.5%	1.08 [0.97, 1.21]	2018
Liou (a) 2018	17	21	12	20	0.9%	1.35 [0.89, 2.04]	2018
Ji 2020	164	220	156	210	3.5%	1.00 [0.90, 1.12]	2020
Bonoso(b) 2021	8	9	6	6	1.3%	0.92 [0.66, 1.28]	2021
Bonoso (c) 2021	1	1	2	4	0.1%	1.50 [0.46, 4.91]	2021
Subtotal (95% CI)		**663**		**693**	**18.2%**	**1.10 [0.97, 1.25]**	
Total events	520		474				

Heterogeneity: Tau² = 0.02; Chi² = 25.47, df = 8 (P = 0.001); I² = 69%

Test for overall effect: Z = 1.54 (P = 0.12)

El beneficio de las terapias Guiadas no fue demostrado



Empírica

Guiada

Nyssen OP,et al. Front Microbiol 2022;13:Art 913436.

Empirical rescue therapy after *Helicobacter pylori* treatment failure: a 10-year single-centre study of 500 patients

J. P. GISBERT, J.-L. GISBERT, S. MARCOS, I. JIMENEZ-ALONSO, R. MORENO-OTERO & J. M. PAJARES

500 pacientes

Primera línea	[illegible]
Tercera línea	76% (55–89%)
Eficacia acumulada	99.5% (98.2-99.8%)

En cada región o país se desearía Conocer cuál sería la secuencia exitosa!

Aliment Pharmacol Ther 2008;27, 346–354

“Nolo” Riquelme

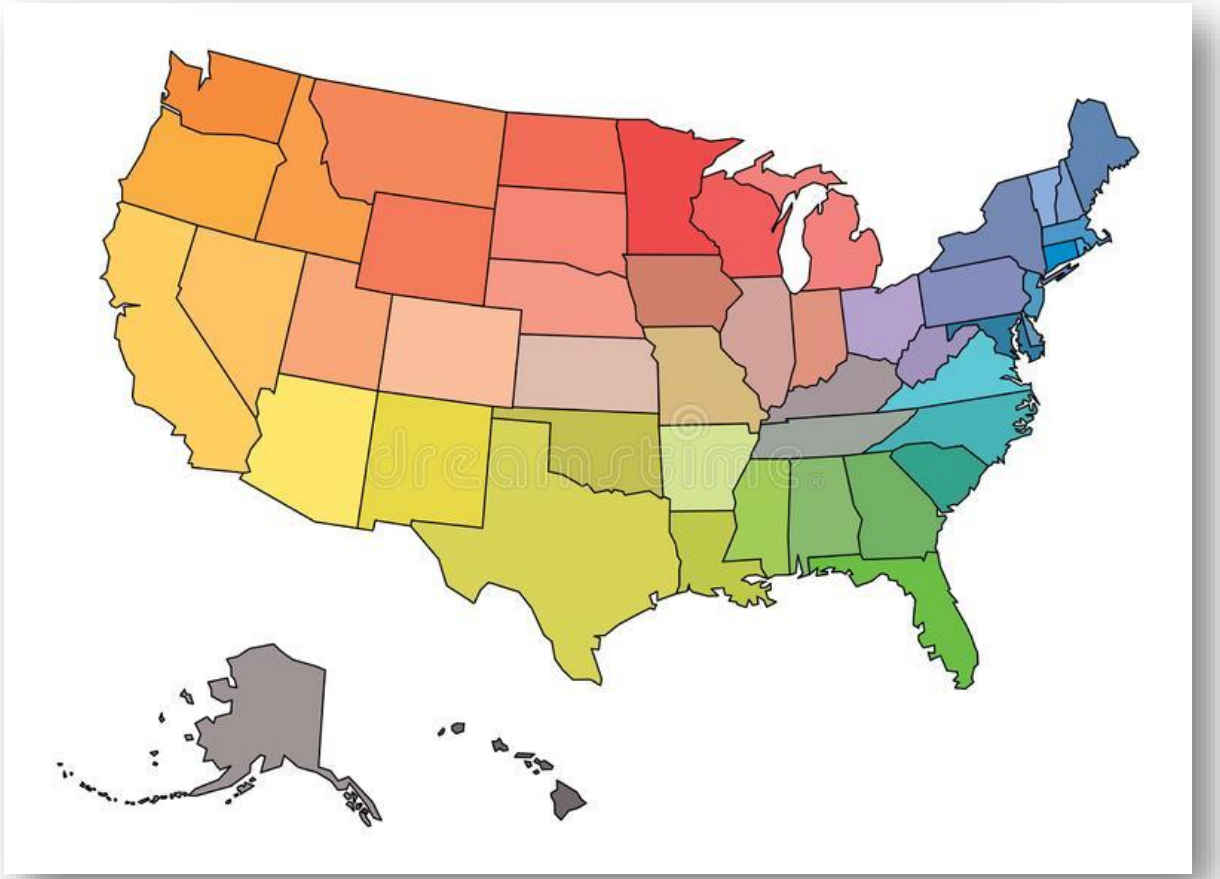
Registro Latinoamericano de *Helicobacter pylori* (Hp-LATAM-Reg)

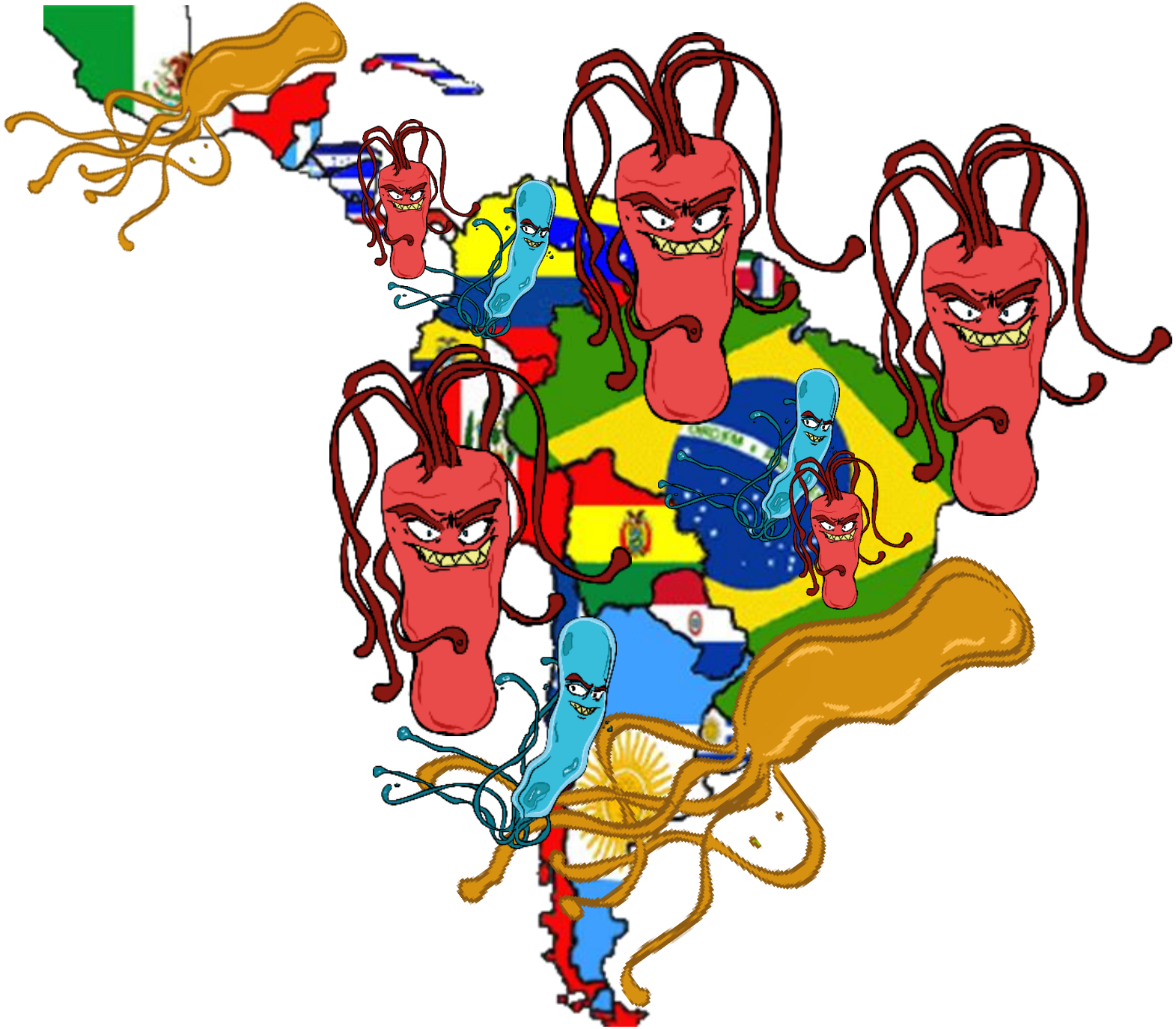
Table 1. Where to obtain *Helicobacter pylori* susceptibility testing in the United States

Test	Laboratory	Web address	Catalog #
Culture	AURP Laboratories	https://ltd.aruplab.com/Tests/Pub/2006686	2006686
Culture	Mayo Clinical Laboratories	https://www.mayocliniclabs.com/test-catalog/Overview/62769	HELIS
Culture	QUEST	https://testdirectory.questdiagnostics.com/test/test-detail/8395/helicobacter-pylori-culture?cc=MASTER	369949
Culture	Labcorp	https://www.labcorp.com/tests/180885/i-helicobacter-pylori-i-culture	18085
Culture	Microbiology Specialists Inc.	https://microbiologyspecialists.com/helicobacter-pylori-testing/	058, 238
Reflex stool by polymerase chain reaction	Mayo Clinical Laboratories	https://www.mayocliniclabs.com/test-catalog/Overview/607594	HPFRP
Next-generation sequencing	American Molecular Laboratories	http://amlaboratories.com/testing-services/helicobacter-pylori-detection-antibiotic-resistant-analysis/	PyloriAR™/AmHPR®
Reflex stool by next-generation sequencing	American Molecular Laboratories	http://amlaboratories.com/testing-services/helicobacter-pylori-detection-antibiotic-resistant-analysis/	PyloriAR™/AmHPR®

Graham DY, Am J Gastroenterol 2022;117:524-28

Helicobacter pylori pruebas susceptibilidad





Mensajes para la casa

H.pylori, muy difícil de matar

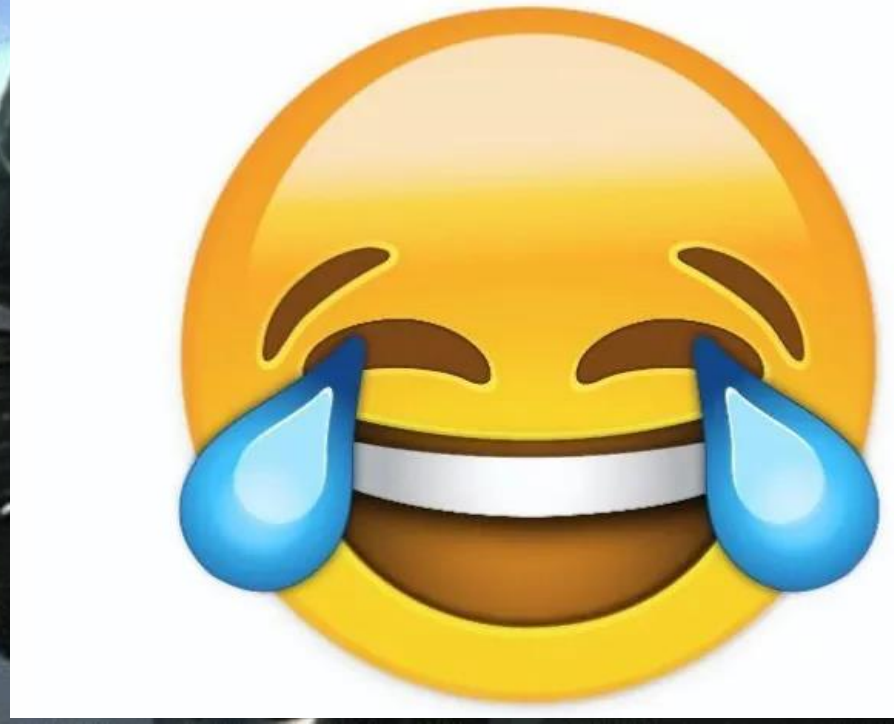
Pruebas
Susceptibilidad
Optimización

Morirás

Morirás

Morirás

Morirás



Empíricas
Bien elegidas
Optimización

Muchas gracias !

Es otra historia

El estado Aprobó erradicar *H.pylori* a todo el país 2000

Hoy

1ª línea	7 días CLR + AMO + LSZ
2ª línea	7 días *MTN* + AMO + LSZ
1ª línea	7 días *VNP 20 mg 2/d* + AMO 750 mg 2/d CLR 200-400 mg2/d
2ª línea	7 días *VNP 20 mg 2v/d* AMO 750 mg 2V/d *MTN + 200 mg 2 V/d*
3ª línea	7 días *VNP 20 mg 2v/d* AMO 750 mg 2V/d *SITF 100 mg 2 V/d*

Asaka M, Int J cancer 2013;132:1272-6
Tsuda M, Helicobacter 2017;22:e12415
Graham DY, J Gastroenterol Hepatol 2021;1159-63

Antimicrobial susceptibility testing for *Helicobacter pylori*

Traditional Approach

Best guess,
based on experience

↓

Antibiotic misuse and/or
low eradication rates

Antimicrobial Susceptibility Testing

WHEN Use when the cure rate with empiric therapy is <90% or after a failed attempt

HOW Gastric biopsy or stool

Culture or molecular testing (PCR or Next Generation Sequencing)

PCR or Next Generation Sequencing

WHY Use results to guide regimen selection, avoid inappropriate antibiotic use & improve eradication rates

Graham DY, Am J Gastroenterol 2022;117:524–528

Mundialmente por fuera de USA

No hay disponibilidad Pruebas susceptibilidad

Optimizar Tratamiento empírico

Resistencia Farmacogenómica

Houston Consensus Conference on Testing for *Helicobacter pylori* Infection in the United States

Hashem B. El-Serag,[*,‡] John Y. Kao,[§] Fasiha Kanwal,[*,‡,‖] Mark Gilger,[¶,#] Frank LoVecchio,[**] Steven F. Moss,[‡‡] Sheila Crowe,[§§] Adam Elfant,[‖‖] Thomas Haas,[¶¶] Ronald J. Hapke,[##] and David Y. Graham[*,‡]

- *Statement 11:* We recommend that family members residing in the same household of patients with proven active *H pylori* infections undergo *H pylori* testing (experts vs survey: 91% vs 78% agree/strongly agree, Expert Grade 1B) (Supplementary Figure 3).

Consenso ≥ 80%

El-Serag HB,Clin Gastroenterol Hepatol 2018;16:992–1002