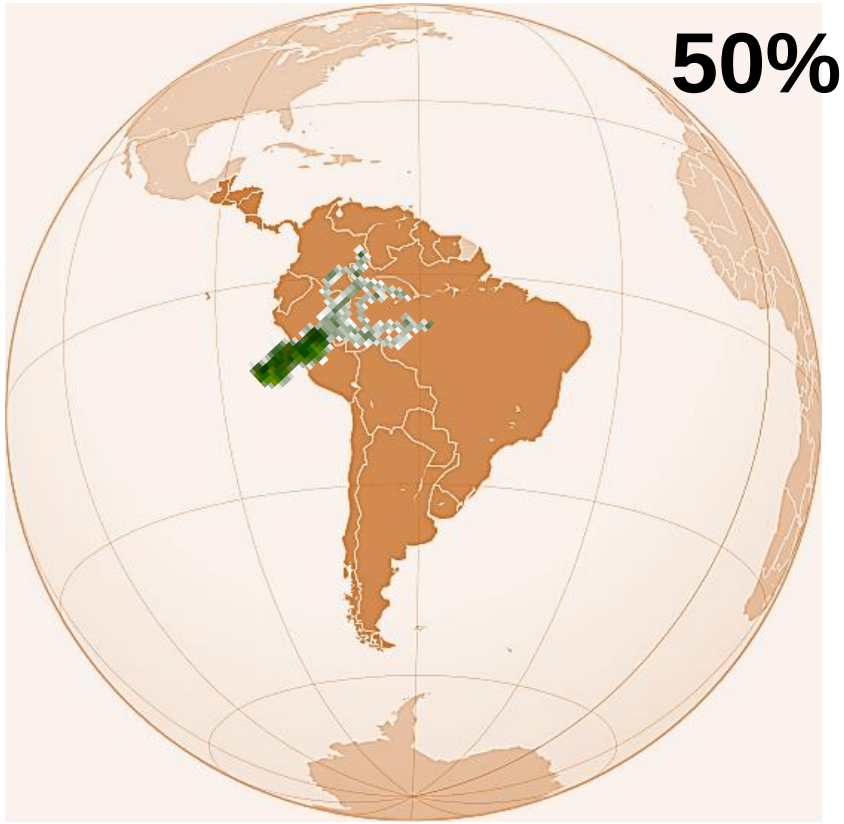
58.000 años

1982

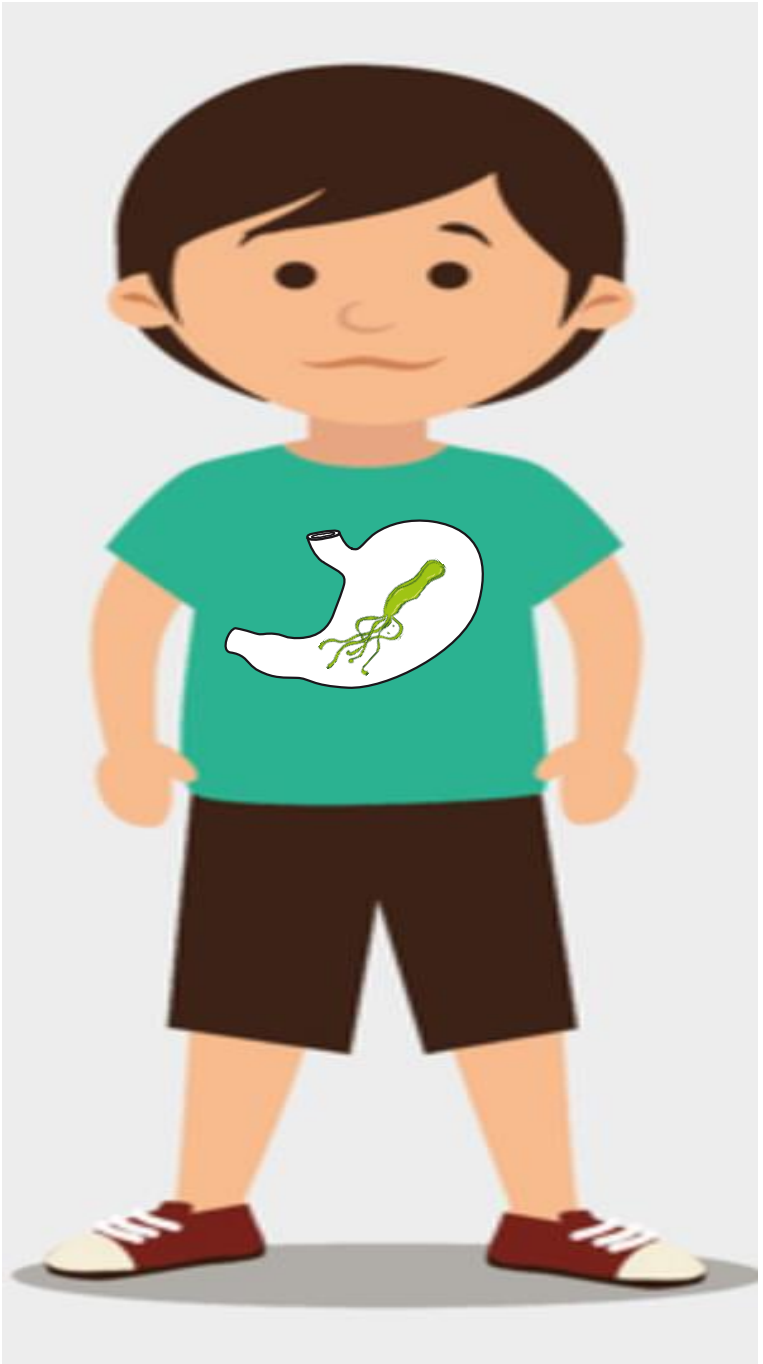


Terapia actual para el manejo de *Helicobacter pylori 2023*

William Otero R MD, FAGA, FASGE, FACP
Profesor Titular de Medicina,
Universidad Nacional de Colombia
Hospital Universitario Nacional de Colombia

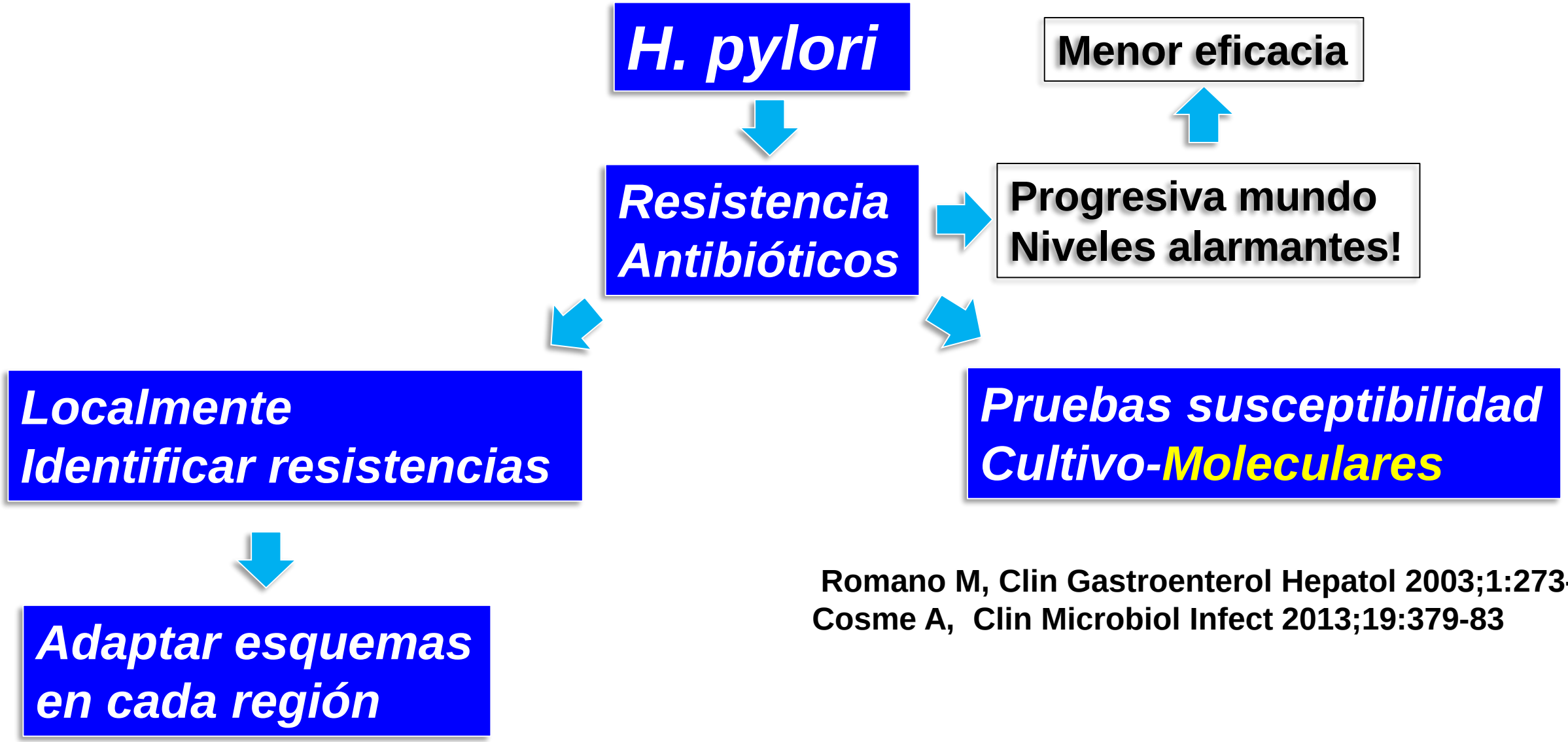
Youtoube “William otero gastroenterólogo”

No hay tratamiento Universal!



Infancia
Vive en el estòmago

Se ha expuesto a todo tipo de antibòticoss orales



Romano M, Clin Gastroenterol Hepatol 2003;1:273-8
Cosme A, Clin Microbiol Infect 2013;19:379-83

Savoldi A, et. Al Gastroenterology. 2018;155:1372-82

Como toda infección
Pruebas susceptibilidad

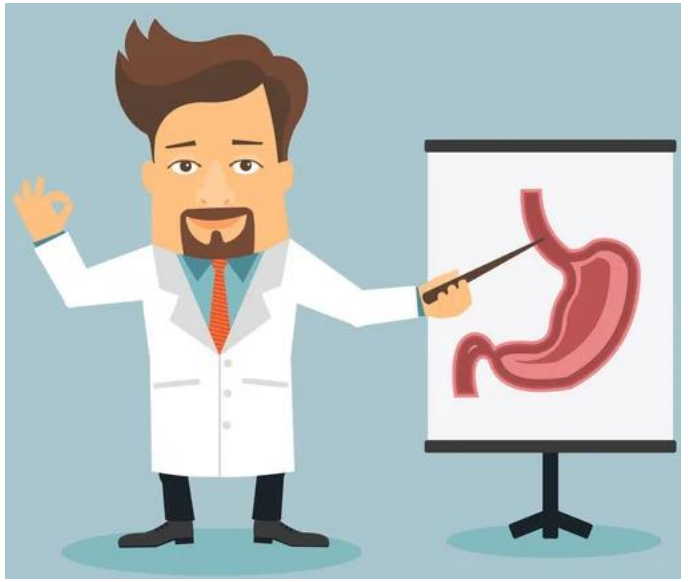
Tratamiento de infecciones meta ≥ 95%

Bacterias convencionales

Basado en susceptibilidad

95-100%

H. pylori



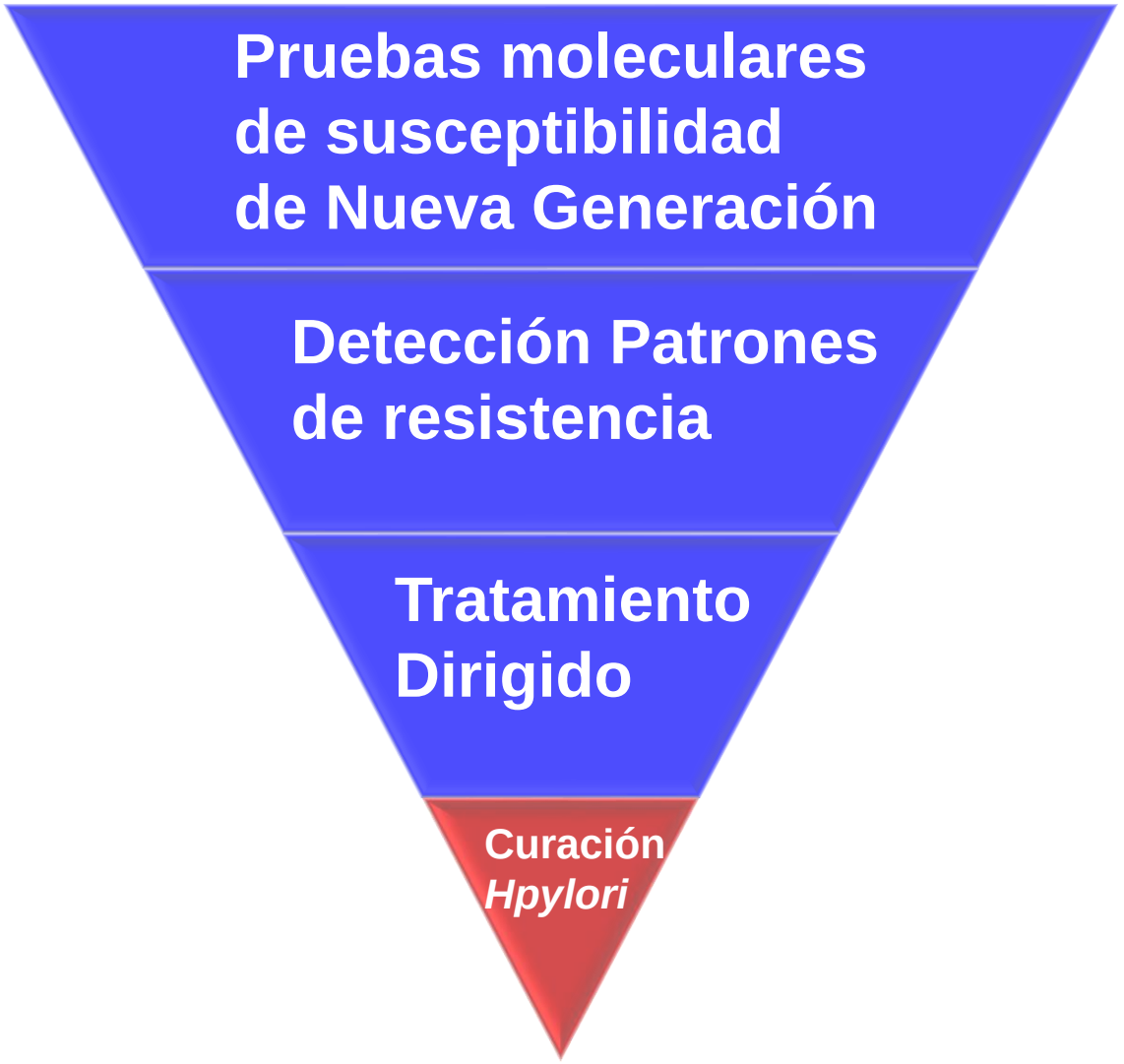
Tratamiento empírico

Ensayo--Error

80-90%

Graham DY. Antibiotics 2020;9:671.

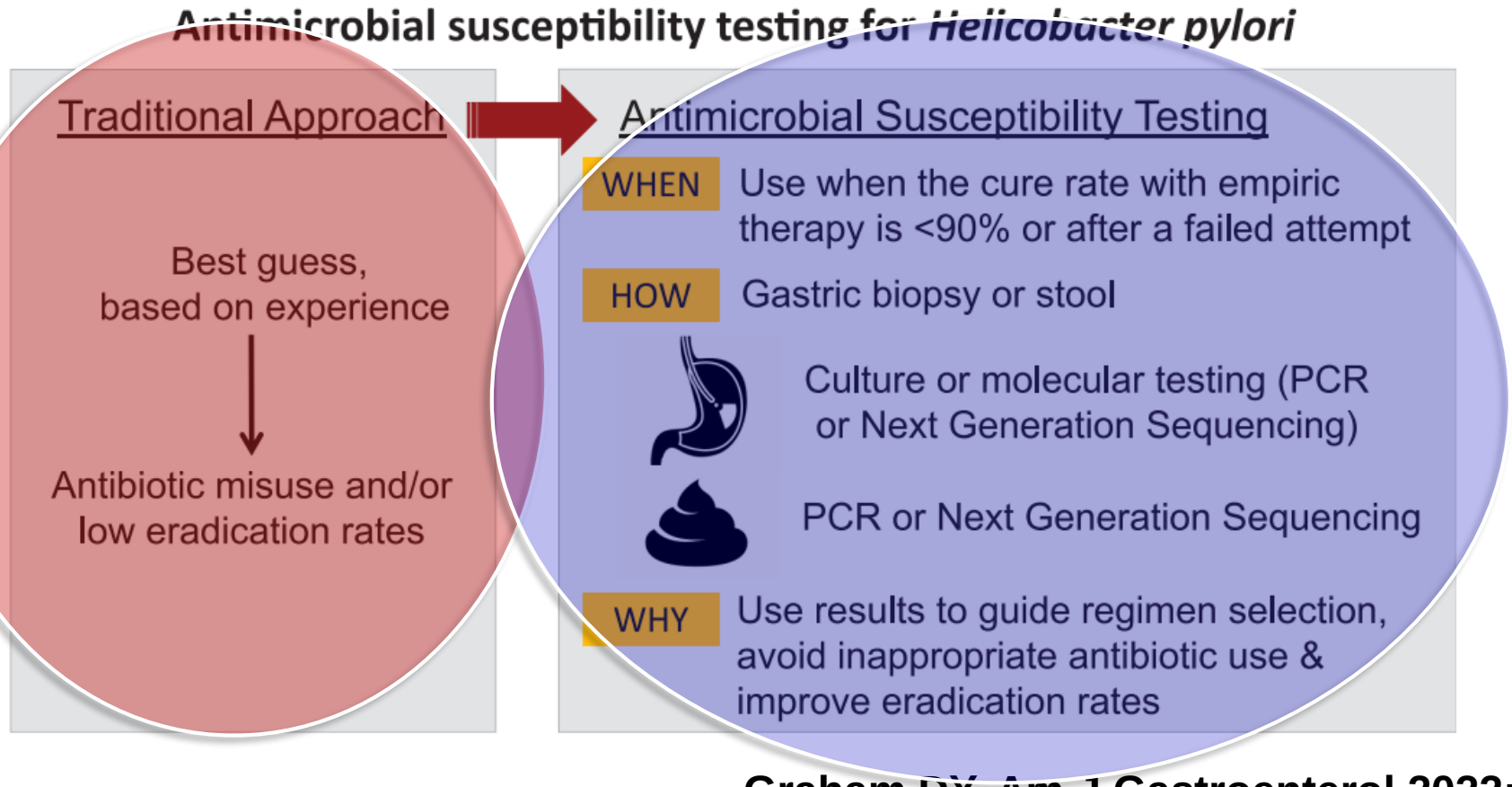
Nuevo paradigma



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

Antimicrobial Susceptibility Testing for *Helicobacter pylori* Is Now Widely Available: When, How, Why

David Y. Graham, MD, MACG[1] and Steven F. Moss, MD, FACG[2]



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

Comparable Results of *Helicobacter pylori* Antibiotic Resistance Testing of Stools vs Gastric Biopsies Using Next-Generation Sequencing

Antibiotic	Gene evaluated	Gastric	Stool	Agreement between tests[b] (κ)
Clarithromycin	*23S rRNA*	34 (53.1)	34 (53.1)	0.94 (0.90–1.00)
Levofloxacin	*gyrA*	19 (29.7)	16 (25.0)	0.88 (0.75–1.00)
Metronidazole	*rdxA*	20 (31.3)	17 (26.6)	0.89 (0.76–1.00)
Tetracycline	*16S rRNA*	6 (9.4)	6 (9.4)	1.00
Amoxicillin	*pbp1*	4 (6.3)	4 (6.3)	1.00

Moss SF, Gastroenterology 2022;162:2095–2097

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

Statement 1: It is reasonable to recommend that susceptibility tests (molecular or after culture) are routinely performed, even before prescribing first-line treatment, in respect to antibiotic stewardship. However, the generalised use of such a susceptibility-guided strategy in routine clinical practice remains to be established.

Agreement 91%

Grade D2

Malfertheiner P, Maastricht VI, Gut 2022,Online agosto 8

Article

Helicobacter pylori Diagnostic Tests Used in Europe: Results of over 34,000 Patients from the European Registry on *Helicobacter pylori* Management

Natalia García-Morales [1], Ángeles Pérez-Aísa [2], Giulia Fiorini [3], Bojan Tepes [4], Manuel Castro-Fernández [5], Alfredo Lucendo [6], Irina Voynovan [7], Luis Bujanda [8], Ana Garre [9], Luis Rodrigo [10], Samuel Jesús Martínez Domínguez [11], Maja Denkovski [12], Jose M. Huguet Malavés [13], Laimas Jonaitis [14], Renate Bumane [15], Oleg Zaytsev [16], Pilar Mata Romero [17], Jesús Barrio [18], Luis Fernández-Salazar [19], Aiman Silkanovna Sarsenbaeva [20], Inmaculada Ortiz Polo [21], Sergey Alekseenko [22], Ilaria Maria Saracino [3], Dino Vaira [3], Alma Keco-Huerga [5], Dmitry Bordin [23,24,25], Antonio Gasbarrini [26], Frode Lerang [27], Theodore Rokkas [28], Juozas Kupčinskas [14], Marcis Leja [15], Gulustan Babayeva [29], Ricardo Marcos Pinto [30], Ante Tonkić [31], Sinead Smith [32], Perminder Phull [33], Gyorgy M. Buzas [34], Halis Simsek [35], Doron Boltin [36], Oleksiy Gridnyev [37], Marino Venerito [38], Vladimir Milivojevic [39], Núria Torà [40], Anna Cano-Català [40], Leticia Moreira [41], Olga P. Nyssen [9,*], Francis Mégraud [42], Colm O'Morain [43], Javier P. Gisbert [9,†], Ignasi Puig [44,†] and on behalf of Hp-EuReg Investigators ‡

Cultivo	11%
"Naive"	10.5%
Rescate	15%
2da línea	11%
Resto	24%

García-Morales N, J. Clin. Med. 2023;12:4363.

Terapia basada en Pruebas susceptibilidad

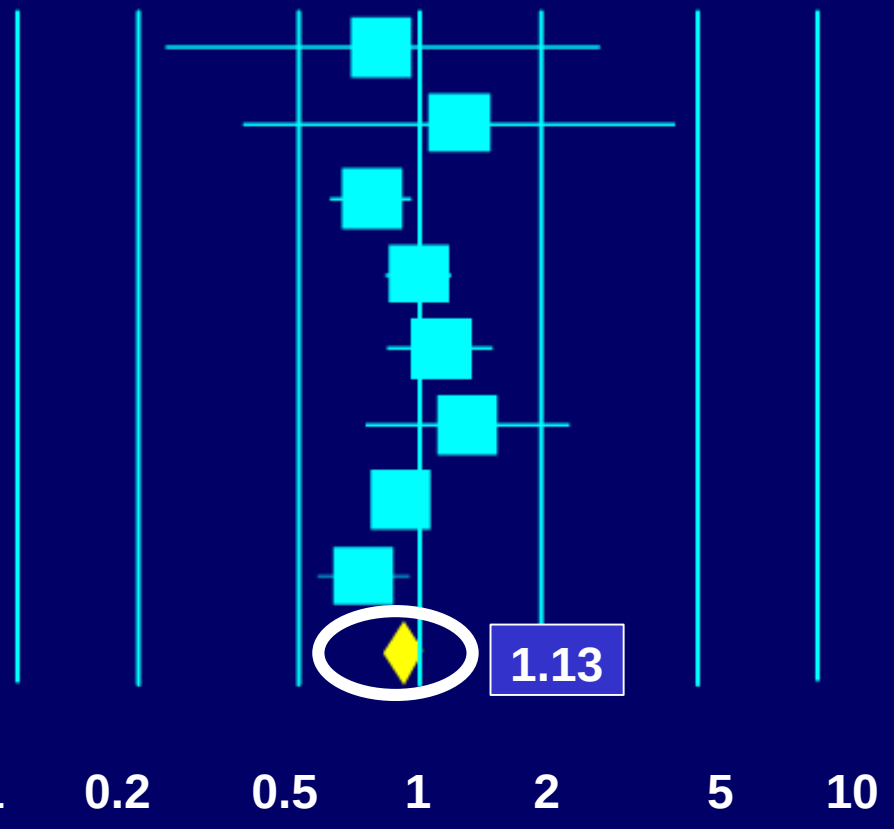
Versus

Terapias empíricas

Susceptibility-guided versus empirical treatment for *Helicobacter pylori* infection: A systematic review and meta-analysis

Rachel Gingold-Belfer,*,† Yaron Niv,‡ Hemda Schmilovitz-Weiss,*,† Zohar Levi*,† and Doron Boltin*,†

	Año	Estadística de cada estudio				
		Risk ratio	Lower limit	Upper limit	Z-Value	P-Value
Park CS.	2014	0.800	0.226	2.827	-0.346	0.729
Dong F.	2015	1.250	0.359	4.355	0.350	0.726
Zhou L	2016	0.755	0.596	0.957	-2.321	0.020
Liou JM.	2018	0.987	0.821	1.186	-0.143	0.886
Delchier JC.	2019	1.120	0.820	1.529	0.712	0.477
Chen Q.	2019	1.315	0.729	2.372	0.908	0.364
Ong S.	2019	0.894	0.798	1.001	-1.946	0.052
Pan J.	2020	0.721	0.549	0.946	-2.357	0.018
		0.899	0.804	1.005	-1.376	0.061



Gingold-Belfer R, J Gastroenterol Hepatol 2021;36:2649-58

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]*

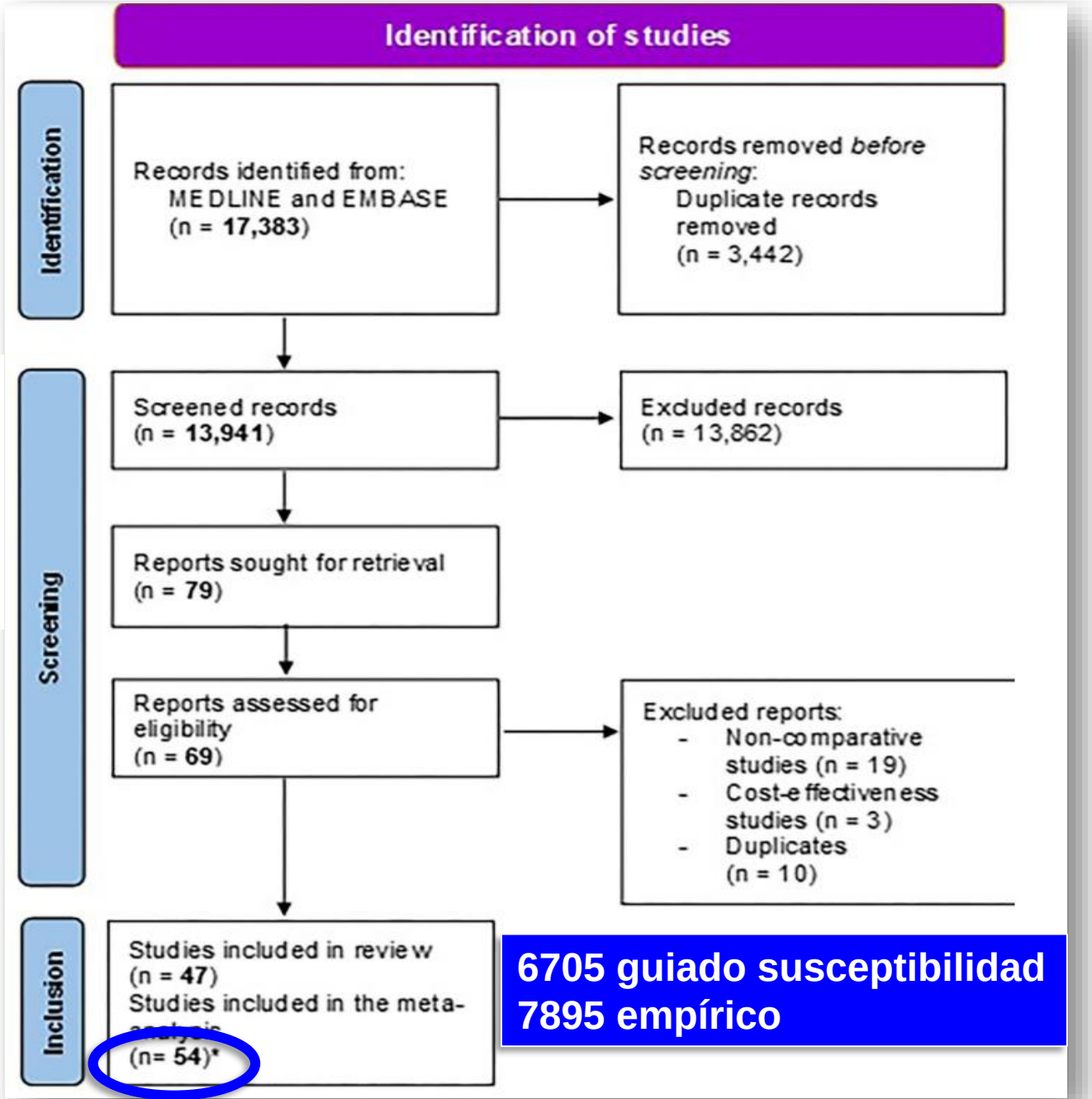
[1] *Gastroenterology Unit, Instituto de Investigación Sanitaria Princesa (IIS-Princesa), Hospital Universitario de La Princesa, Madrid, Spain,* [2] *Universidad Autónoma de Madrid (UAM), Madrid, Spain,* [3] *Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBEREHD),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

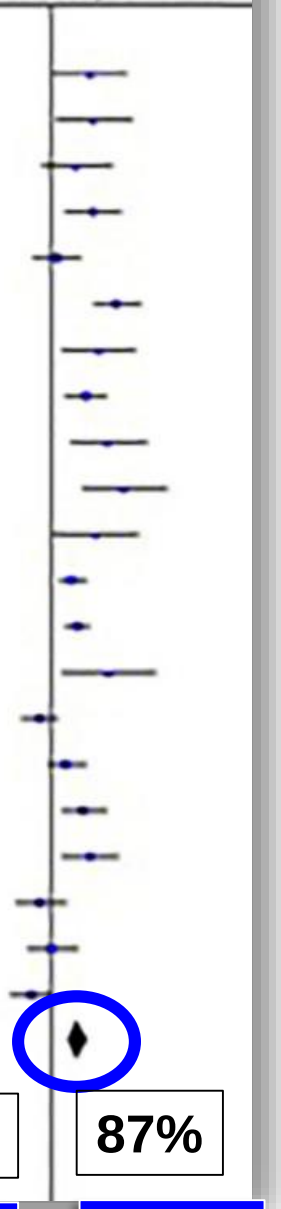
[1] Gastroenterology Unit, Instituto de Investigación Sanitaria Princesa (IIS-Princesa), Hospital Universitario de La Princesa, Madrid, Spain, [2] Universidad Autónoma de Madrid (UAM), Madrid, Spain, [3] Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBEREHD), Madrid,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



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

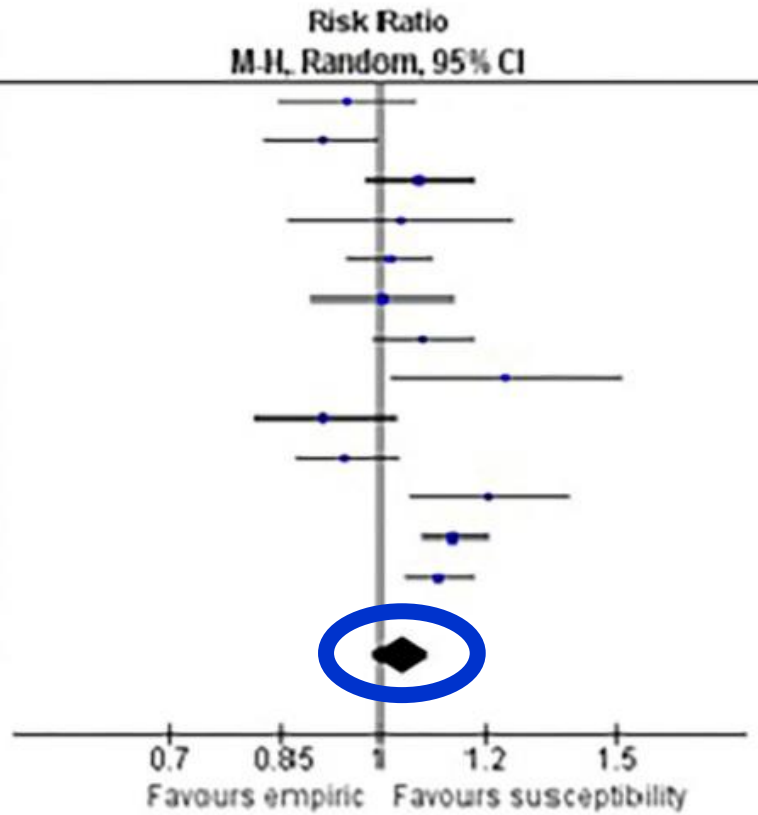
*Olga P. Nyssen [1,2,3], Marta Espada [1,2,3] and Javier P. Gisbert [1,2,3]**

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)

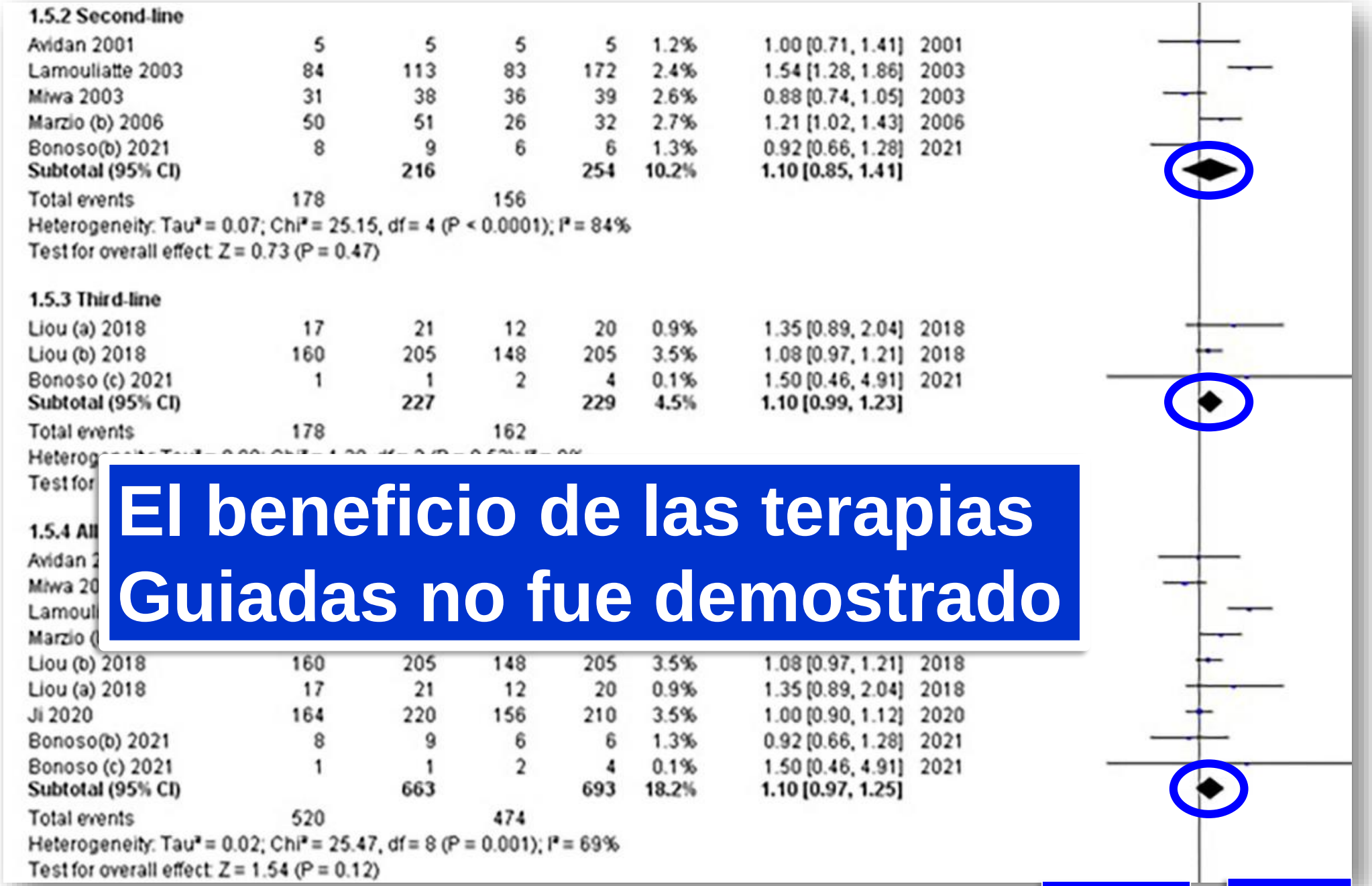


Nyssen OP,et al. Front Microbiol 2022;13:Art 913436.

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 (							
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.

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

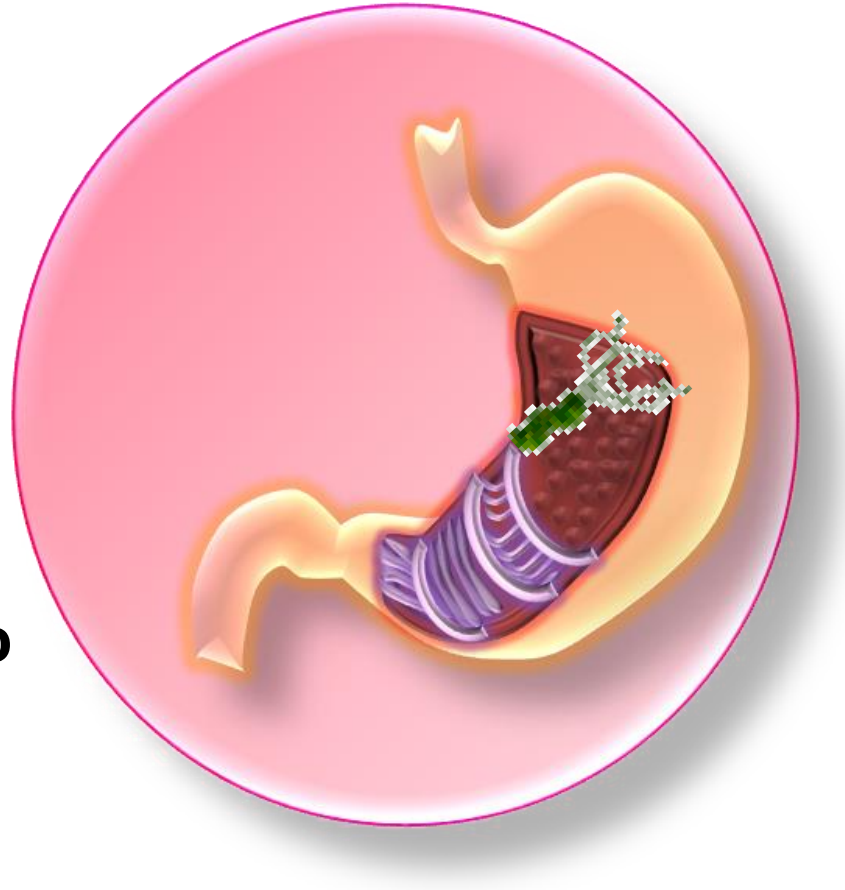
Empírica y la basada en susceptibilidad deben optimizarse Dosis de antibióticos, duración y tipo de IBP (CYP2c19)

Rokkas T, Helicobacter 2023;28:e12936

Tratamiento *Helicobacter pylori*

Susceptibilidad in vitro

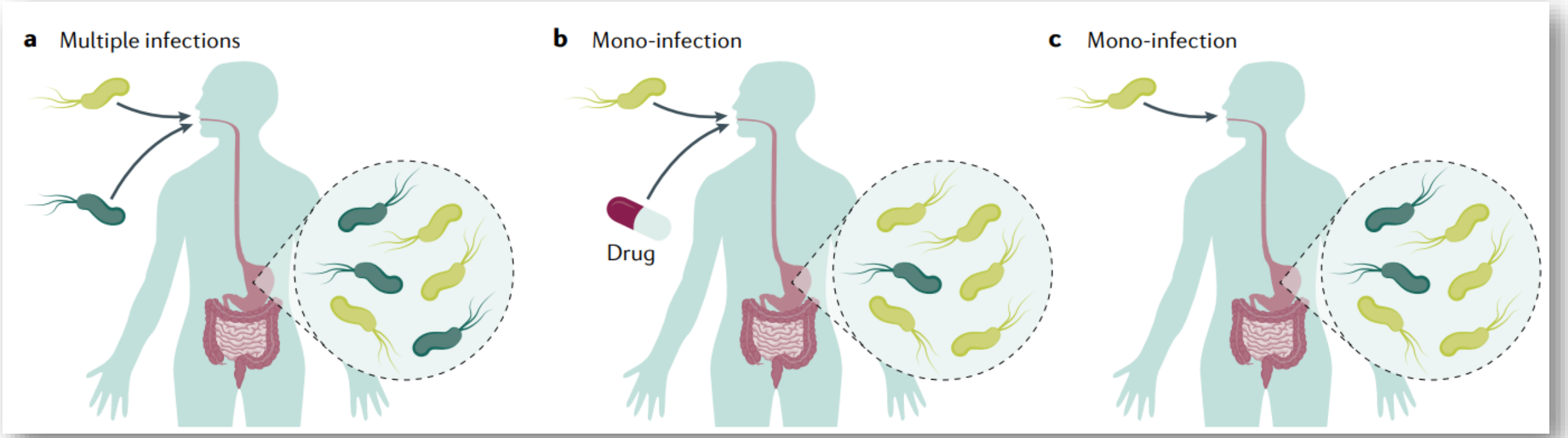
≠



Niveles antibiótico
Dosis antibiótico
Duración
pH, IBP
Heteroresistencia

Gisbert JP, Ther Adv Gastroenterol 2020;13:1-16
Graham DY, Helicobacter 2023;28:e12936

Hetero-resistencia



Tshibangu-Kabamba E, Nat Rev Gastroenterol Hepatol. 2021;18:613-29.

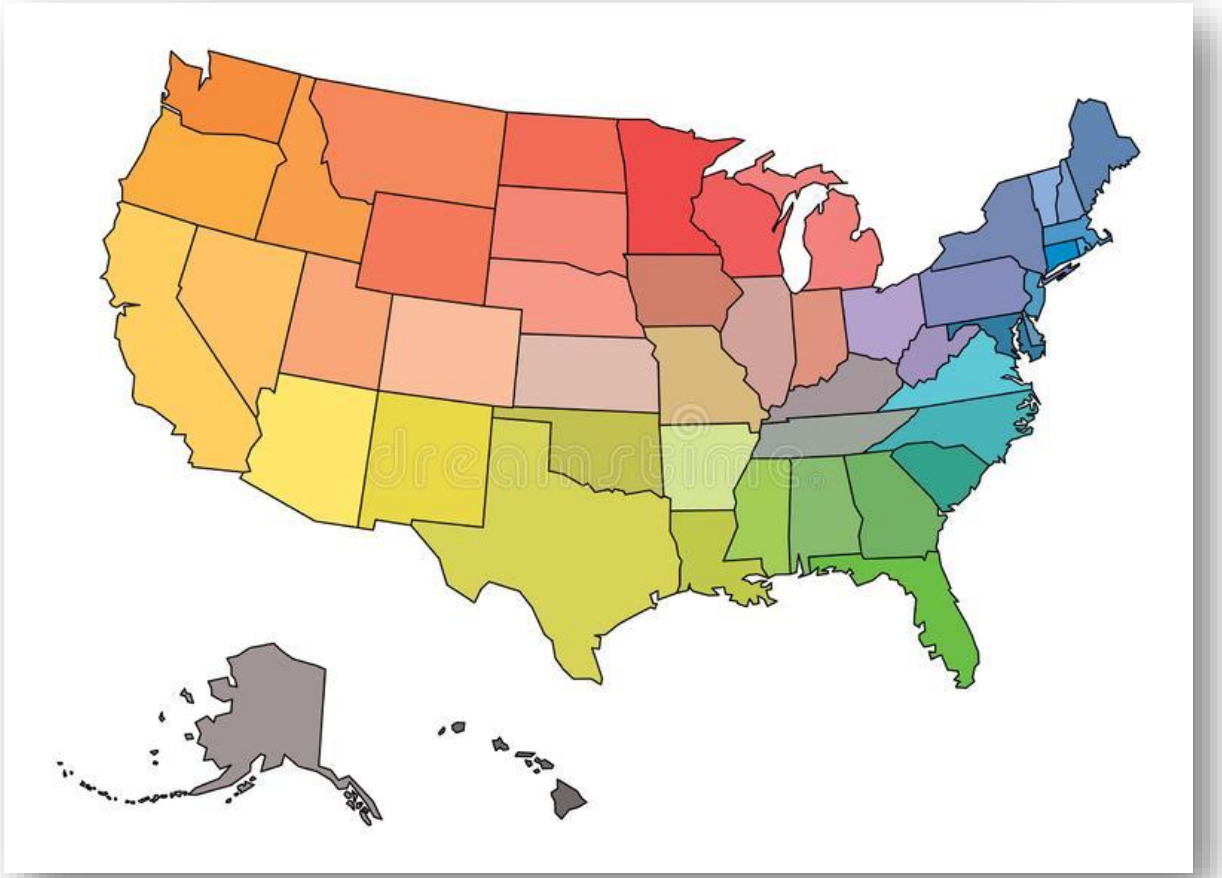
Mundialmente por fuera de USA

No hay disponibilidad Pruebas susceptibilidad

Optimizar Tratamiento empírico

Resistencia Farmacogenómica

Helicobacter pylori pruebas susceptibilidad



Tratamiento *Helicobacter pylori* 2023

1ª línea

Cuádruple clásica
IBP +Amox+Tetrac+Bi
Triple Claritromicina + Bi
Dual: IBP+ AMOX
IBP +Tetrac

2ª línea 10-20%

Cuádruple clásica
IBP+Amox+ Tetrac +Bi
Triple *levofloxacina* +Bi
Dual

3ª línea 5-10%

Cuádruple clásica
Triple *levofloxacina* +Bi
Concomitante
Dual

4ª línea

Cuádruples Furazolidona
Cuádruple Rifabutina

Liou JM, Gut Liv 2021 On line March 31c
Otero W, Temas Escogidos Gastroenterlogia, ACG 2022
Otero W, PLM Ecuador 2023

ORIGINAL PAPER

The efficacy of dual therapy for eradicating *H. pylori* in a Colombian population

JOHANNA BUITRAGO-LAGUADO, CARLOS RUIZ-LINARES, WILLIAM ALBERTO OTERO-REGINO
• BOGOTÁ, D. C. (COLOMBIA)

108 pacientes, Edad 67, 70% mujeres

	ITT
Sin terapia previa	86% (95%CI 79.4-92.5%)
2da terapia	85.7% (95%CI 71.8-99.5%)
Efectos adversos leves 31%	Náuseas (26%) Distensión 15%

Buitrago-Laguado J, Acta Med Colomb 2021; 46.

ORIGINAL ARTICLE

Helicobacter WILEY

Impact of body size on first-line *Helicobacter pylori* eradication success using vonoprazan and amoxicillin dual therapy

Hiroyuki Eto[1] | Sho Suzuki[2,3] | Chika Kusano[2] | Hisatomo Ikehara[2] | Ryoji Ichijima[2] | Hirotaka Ito[4] | Koichi Kawabe[5] | Masashi Kawamura[6] | Yoshioki Yoda[7] | Moriyasu Nakahara[1] | Takuji Gotoda[2]

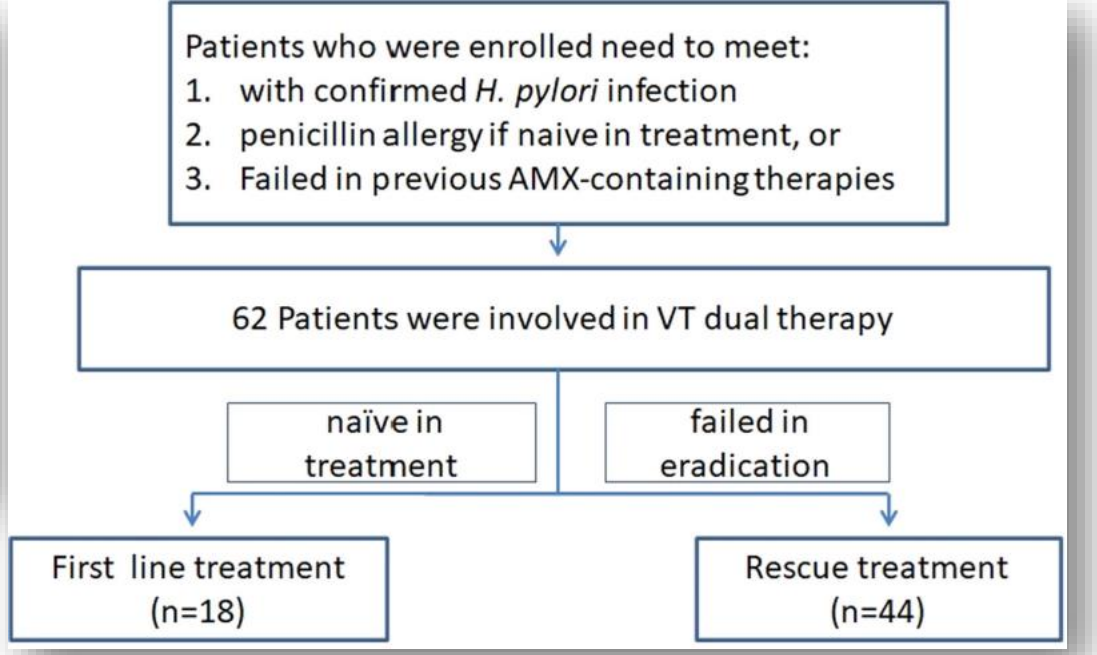
Factors	Eradication success	*P*-value
<1.723	90.8% (99/109)	0.045‡
≥1.723	79.6% (43/54)	
BMI (kg/m^2)		
<22.4	95.6% (43/45)	0.047‡
≥22.4	83.9% (99/118)	

Eto H, et al. Helicobacter. 2021;26:e12788

A real-world exploratory study on the feasibility of vonoprazan and tetracycline dual therapy for the treatment of *Helicobacter pylori* infection in special populations with penicillin allergy or failed in previous amoxicillin-containing therapies

Wen Gao[1] | Ying Xu[1] | Jianxiang Liu[1] | Xiaolei Wang[1] | Xinhong Dong[1] | Guigen Teng[1] | Binbin Liu[1] | Jinpei Dong[1] | Chaoyi Ge[1] | Hui Ye[2] | Xuezhi Zhang[2] | Hong Cheng[1]

< 75 Kg Tetraciclina 500 mg 3 v/día
>75 Kg Tetraciclina 500 mg 4 v/día

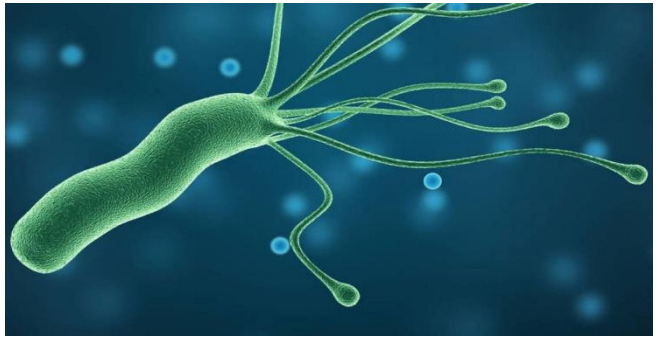


	VT dual therapy			
	First-line treatment (*n* = 18)	Rescue treatment (*n* = 44)	*p* Value	Total (*n* = 62)
Eradicated	18	40	.18	58
Failed	0	4		4
Eradication rate (95% CI)	100% (82.4–100%)	90.9% (78.8–96.4%)		93.5% (84.5–97.5%)

Gao W, Helicobacter 2023 On line Enero 30

H.pylori otras tetraciclinas

Limeciclina 300 mg 1v/día



Limeciclina
300 mg 2 v/día ?

Minociclina 100 mg 2v/día

Bismuto 2 v/día
Metronidazol 500 mg 4/v/día
IBP 2Vdia

Huang Y, J Gastroenterol 2023;58:633-41


Mundo Real

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 **70% (65–75%)**

Segunda lín

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

Dr Arnoldo Riquelme

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

Mensajes para la casa

No hay tratamiento universal
La mayorìa de terapias guiadas < 90%
Optimizar terapias guiadas
Optimizar tratamiento empírico
Tener en cuenta resistencias locales
Utilizar terapias locales eficaces
Asistir al Panamericano Chile 2023

Muchas Gracias !