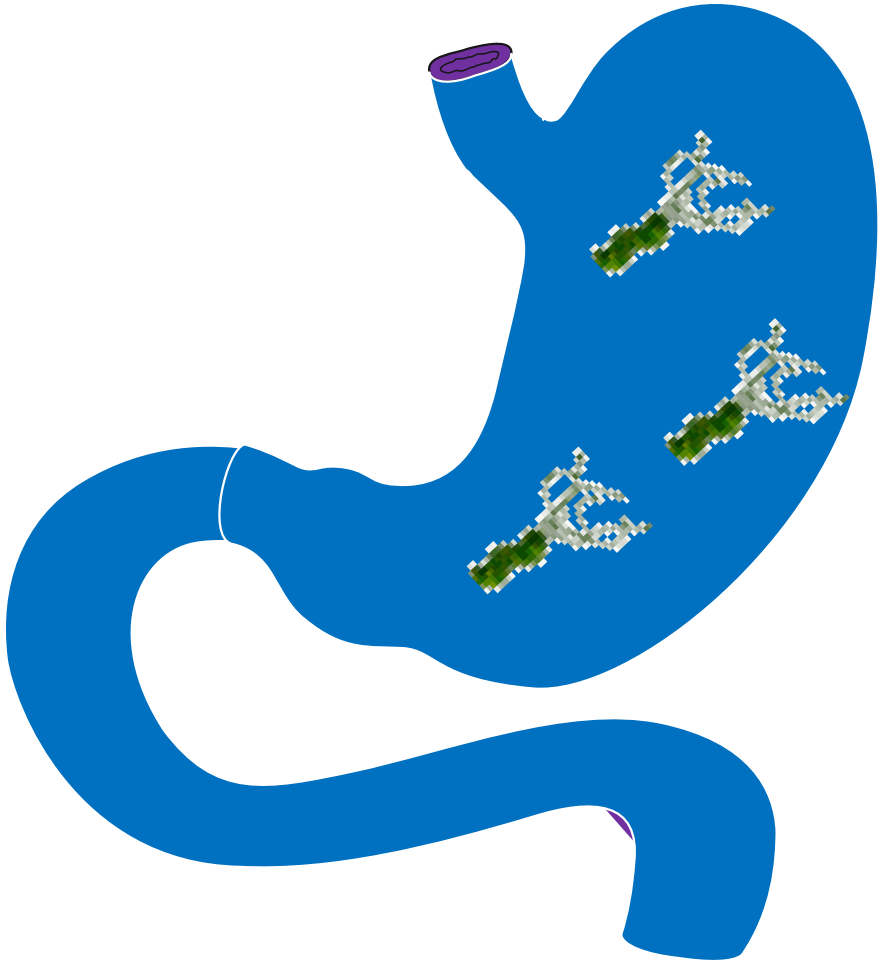
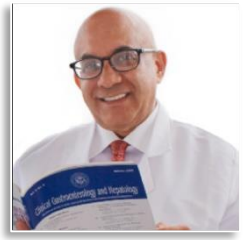
Curso de actualización para El Primer Nivel de Atención Mòdulo Gastroenterología

Capna Gastro 2023

Actualización sobre *Helicobacter pylori: Epidemiologia, impacto y diagnóstico*



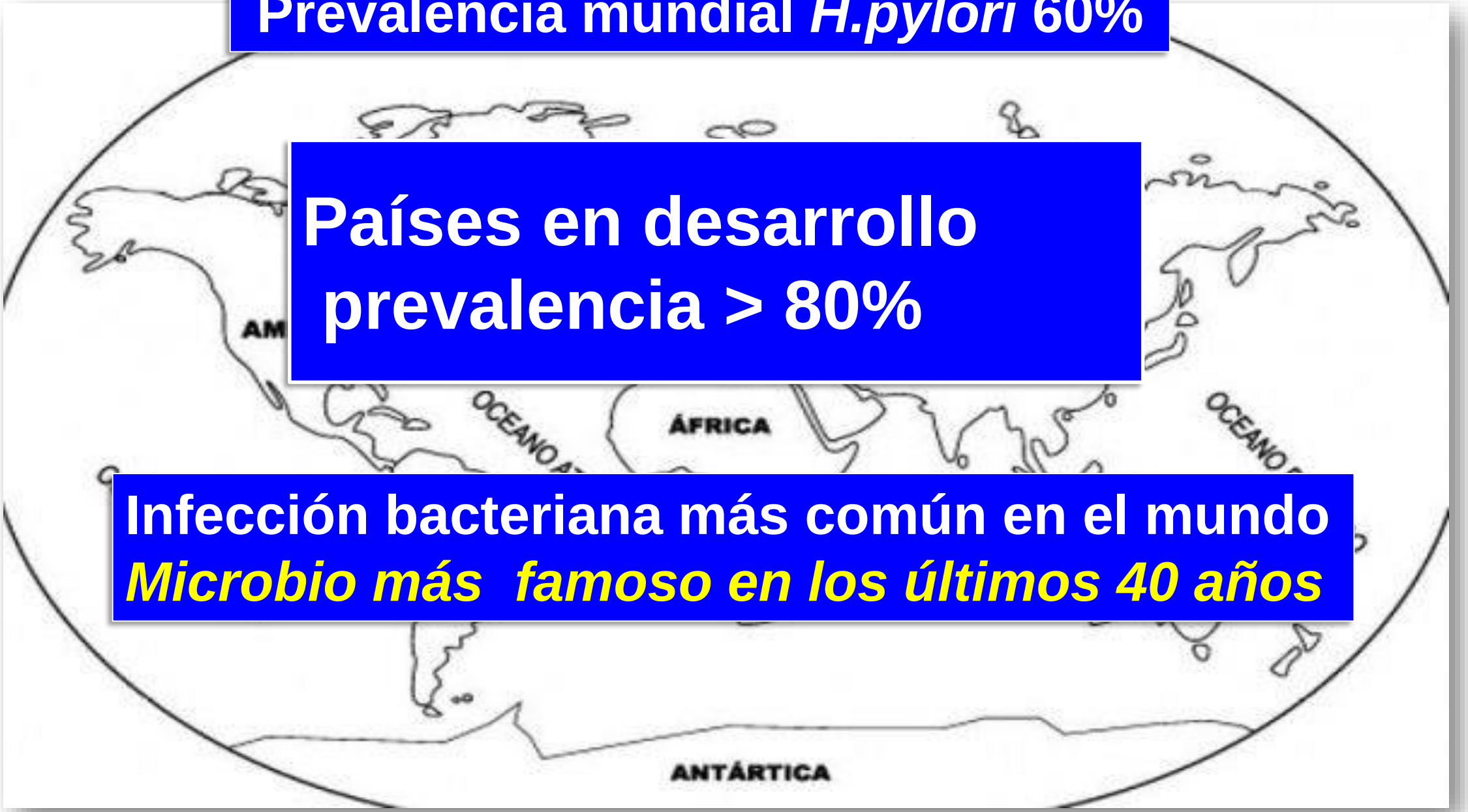


William Otero Regino MD, FAGA, FACP
Profesor Titular de Medicina
Universidad Nacional de Colombia
Hospital Universitario Nacional de Colombia

YouTube “William otero gastroenterólogo”

Conflicto de intereses
Conferencista
Takeda, Abbott, Tecnoquimica
Tecnofarma, Menarini, Procaps

Prevalencia mundial *H.pylori* 60%



Países en desarrollo
prevalencia > 80%

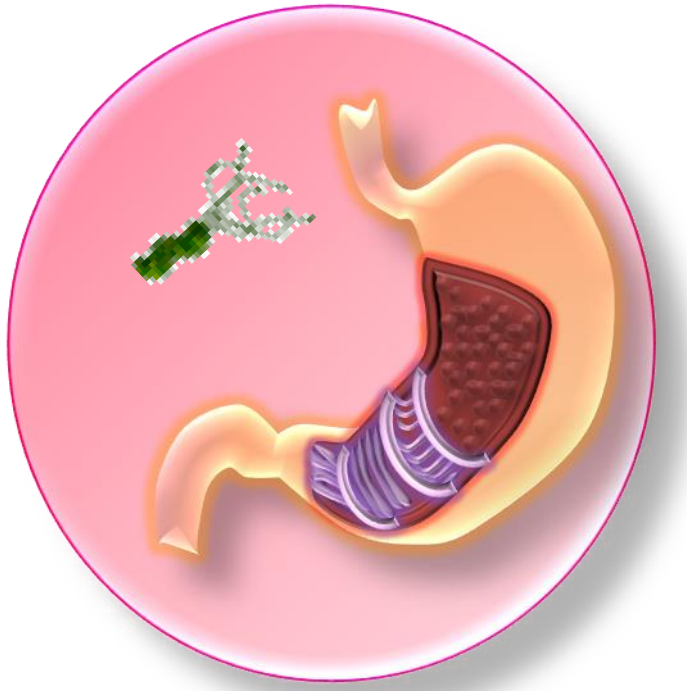
Infección bacteriana más común en el mundo
Microbio más famoso en los últimos 40 años

Hooi JKY, Gastroenterology 2017;153:420-9

Transmisión Helicobacter pylori

?

58.000 años



Transmisión Directa

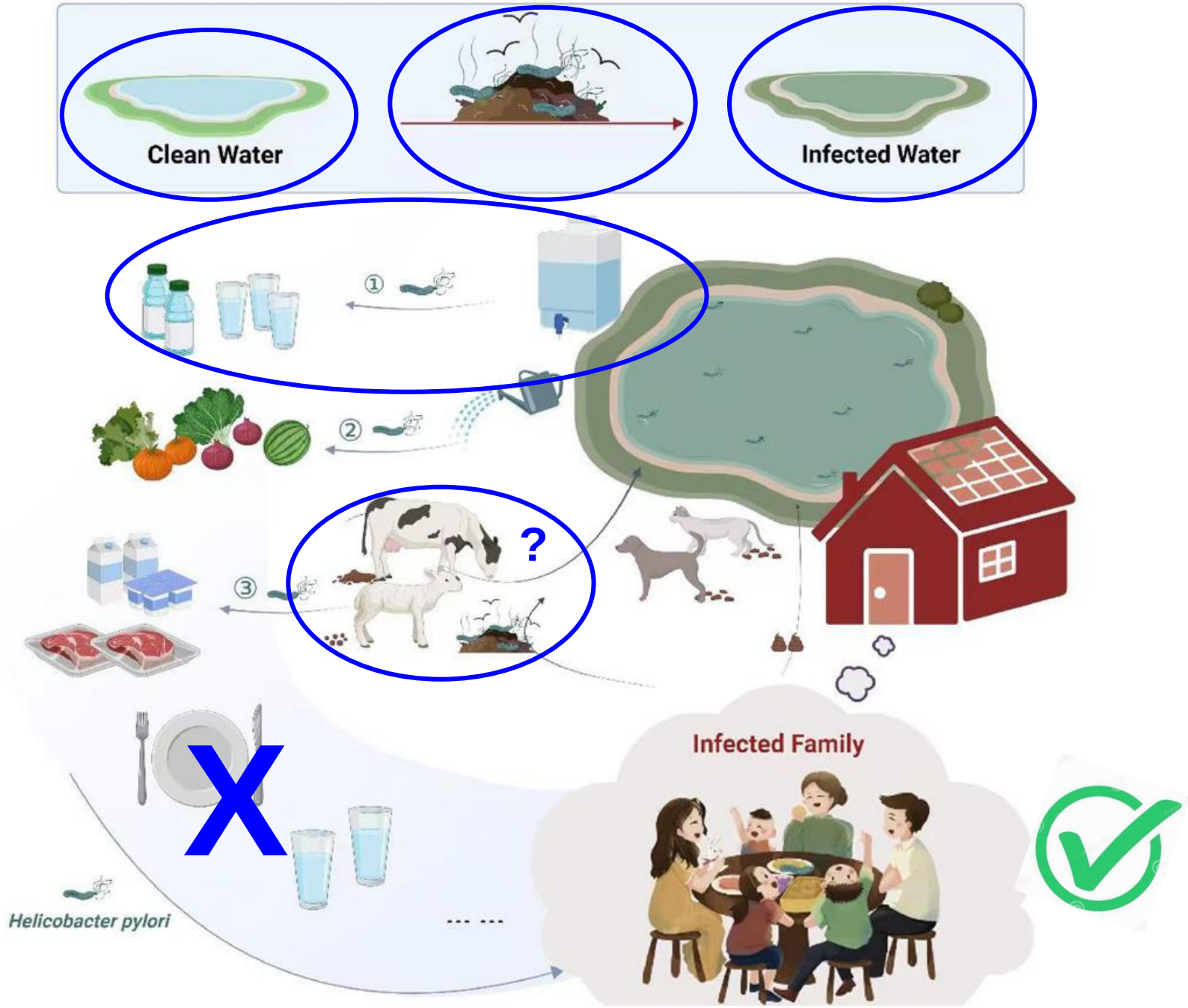
Humano-Humano Fecal-oral

Madre-Hijo

Ambiente Intrafamiliar Infancia : 1os 5 años

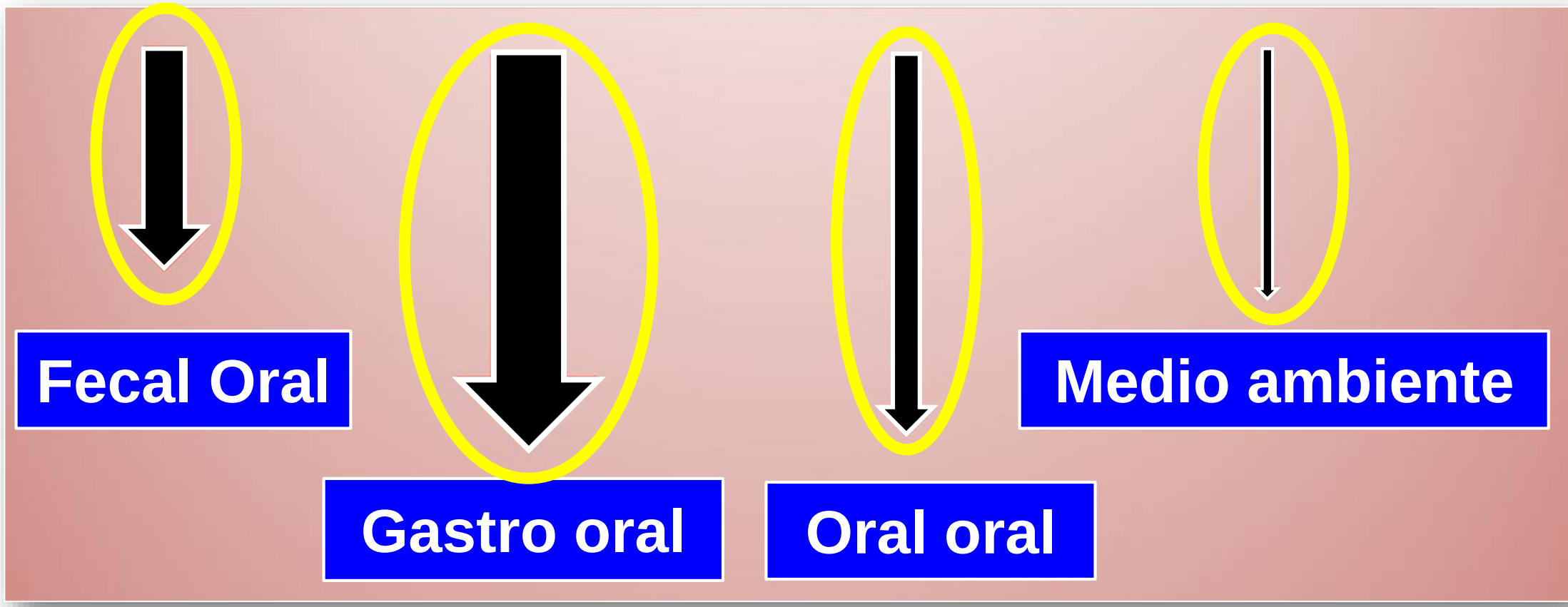
Adolescencia ocasional Adulto: rara vez

Duan M, Helicobacter. 2023; early Rel enero 25
Pérez-Pérez G. Acta Latinoam 2018;29 (Supl 1):13S-20S
Otero W, PLM Ecuador 2023



Duan M, Helicobacter. 2023; early Rel enero 25.

Transmisión de *Helicobacter pylori*



Pérez-Pérez G. Acta Latinoam 2018;29 (Supl 1):13S-20S

Incidencia *H.pylori*

1.4% año

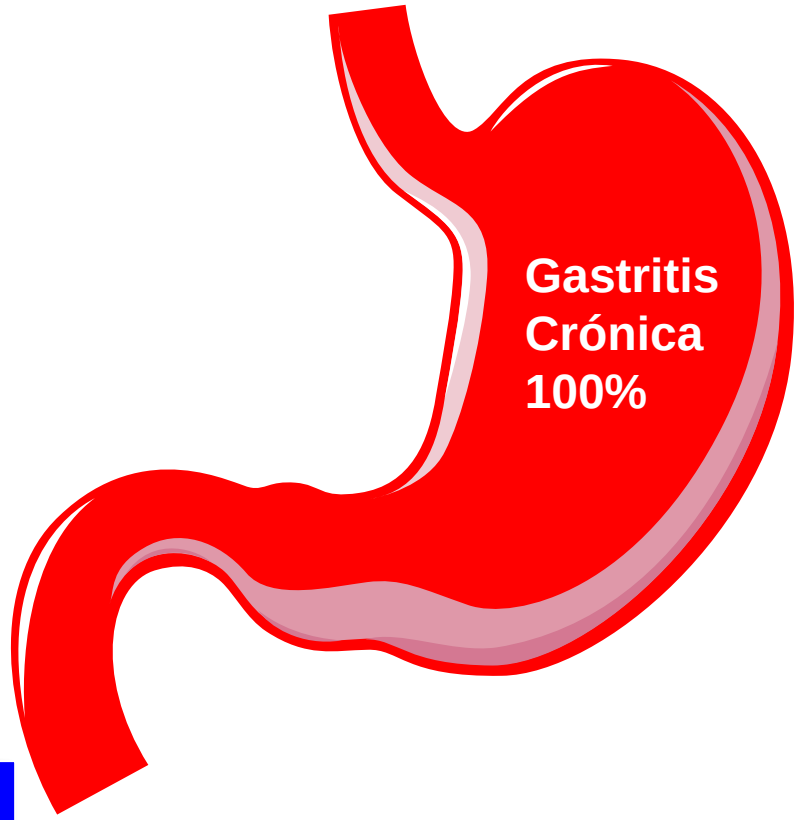
2.1%	2-4	años
1.5%	7-9	años
0.3%	21-23	años

Malaty, HM. et al.. Lancet 2002;359: 931-35.

Consecuencias de la infección por *Helicobacter pylori*

Enfermedades Gastroduodenales

- **Ulcera péptica**
  10-15% infectados
  Risgo 3-10 veces
- **Dispepsia por *H.pylori***
  1-5% infectados
- **Cáncer gástrico**
  1-3% infectados
- **Linfoma MALT gástrico**
  <0.01% infectados



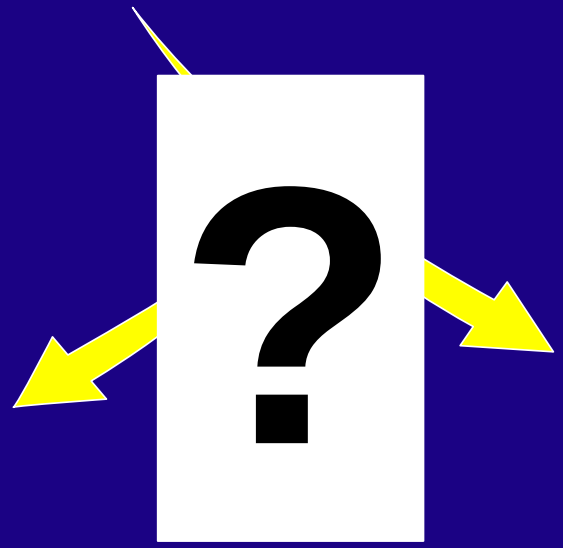
Enfermedades hematológicas
Prevalencia desconocida

- **Anemia Ferropénica**
- **Anemia Deficiencia B12**
- **Trombocitopenia Inmune**

Malfertheiner P, et al. Gut 2017;66:6–30

Helicobacter pylori

100% Gastritis Crónica



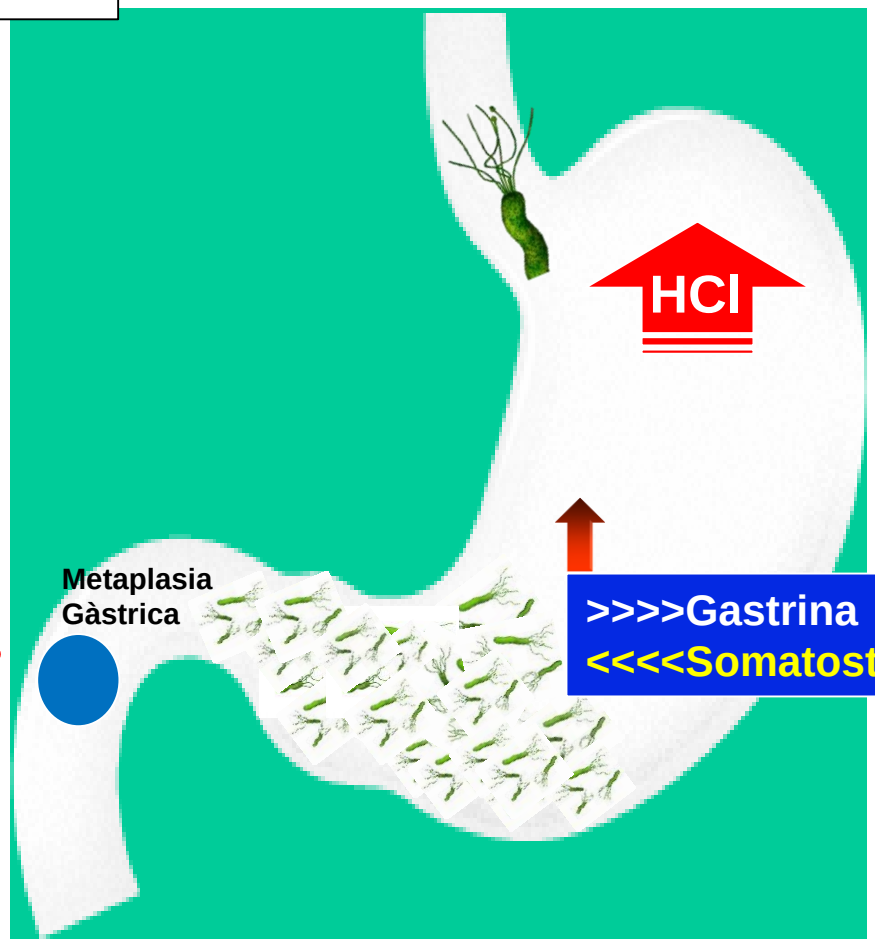
80% Asintomáticos

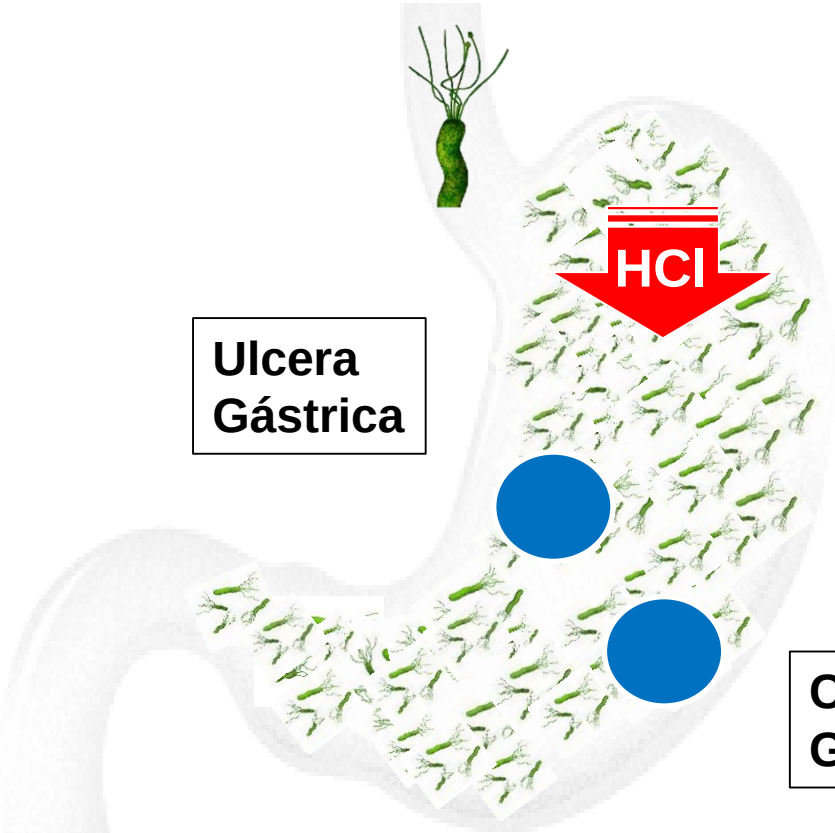
20% Sintomáticos

Otero W, Rev Gastroenterol Perú 2018;38:54-63.

Helicobacter dos gastritis

Úlcera Duodenal





Ulcera Gástrica

Mayoria Atrofia

Metaplasia Intestinal

Cáncer Gástrico

Hunt RH, Gut 2015;64:1650-68
Kuipers EJ, N Engl J Med 1996;334:1018-22
Board Review Gastroenterology 2022

Muertes atribuidas a *H.pylori 2018*

Ulceras Pèpticas *247.000*

Càncer Gàstrico *783.000*

1 de cada 13 Muertes en el mundo

>1.000.000

Bray F, CA Cancer J Clin 2019;68:394-424
Sung H, CA Caner J Clin 2021;71:209-49

H.pylori diagnóstico

Diagnóstico

Métodos exacto antes de iniciar tratamiento

Elbehiry A, et al. Antibiotics 2023;12:191
Malfertheiner P, Nat Rev Dis Primers. 2023;9:19

Test	Sensitivity	Specificity	Clinical use	Comments	Refs.	
Invasive methods						
Rapid urease test	84–95%	95–100%	Important for initial diagnosis; testing two biopsy samples improves sensitivity; provides rapid results	PPIs need to be stopped 14 days before testing; current or recent antibiotic therapy needs to be excluded	86,179	IBP AB
Microbial culture	76–90%	100%	Important for phenotypic susceptibility testing	Absolute specificity but costly; PPIs need to be stopped 14 days before testing; current or recent antibiotic therapy needs to be excluded	86,179	IBP AB
Histological assessment	60–93%	>95%	Gold standard for diagnosis and assessment of mucosal changes	Based on updated Sydney system	86,373	
Molecular testing (PCR methods and FISH)	80–95%	100%	Useful in initial diagnosis and follow-up; provides rapid results	High sensitivity and specificity; useful in gastrointestinal bleeding, virulence typing and detection of antibiotic resistance	86,179, 373–375	
Non-invasive methods						
UBT	95–100%	95–100%	Gold standard for non-invasive diagnosis; higher sensitivity and specificity than stool antigen test and serological assessment; for initial diagnosis and follow-up	PPIs need to be stopped 14 days before testing; current or recent antibiotic therapy needs to be excluded	86,179,373	IBP AB
Stool antigen test	>95%	>95%	Useful for initial diagnosis and follow-up; slightly lower sensitivity than UBT	Rapid, simple and inexpensive	86,373	IBP AB
Serological antibody detection	74.4%	59%	Useful for initial diagnosis in specific cases	Cheap, simple and rapid; highly variable results; ideal for epidemiological purposes; no need to stop PPI and useful in patients with gastrointestinal bleeding; cannot distinguish between active and previous infection	86,179,376	

FISH, fluorescence in situ hybridization; *H. pylori*, *Helicobacter pylori*; PPI, proton pump inhibitor; UBT, ^{13}C-urea breath test.

Malfertheiner P, Nat Rev Dis Primers. 2023;9:19

Verificación de la curaciòn

Verificación de la curación
Métodos infección activa

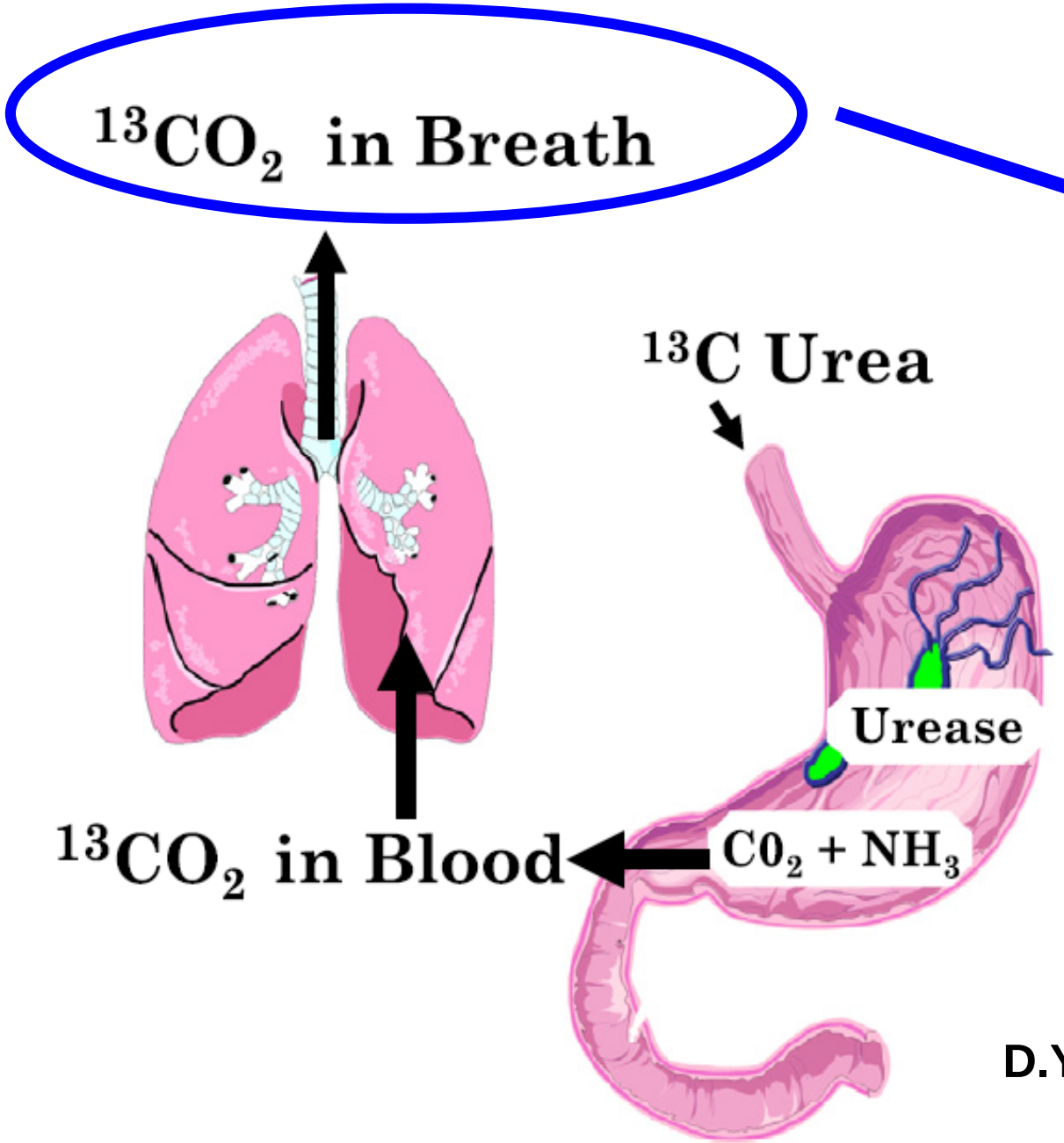
Serología No identifica Infección activa

EVDA NO!

Solo si necesita EVDA de control *H.pylori* histologìa

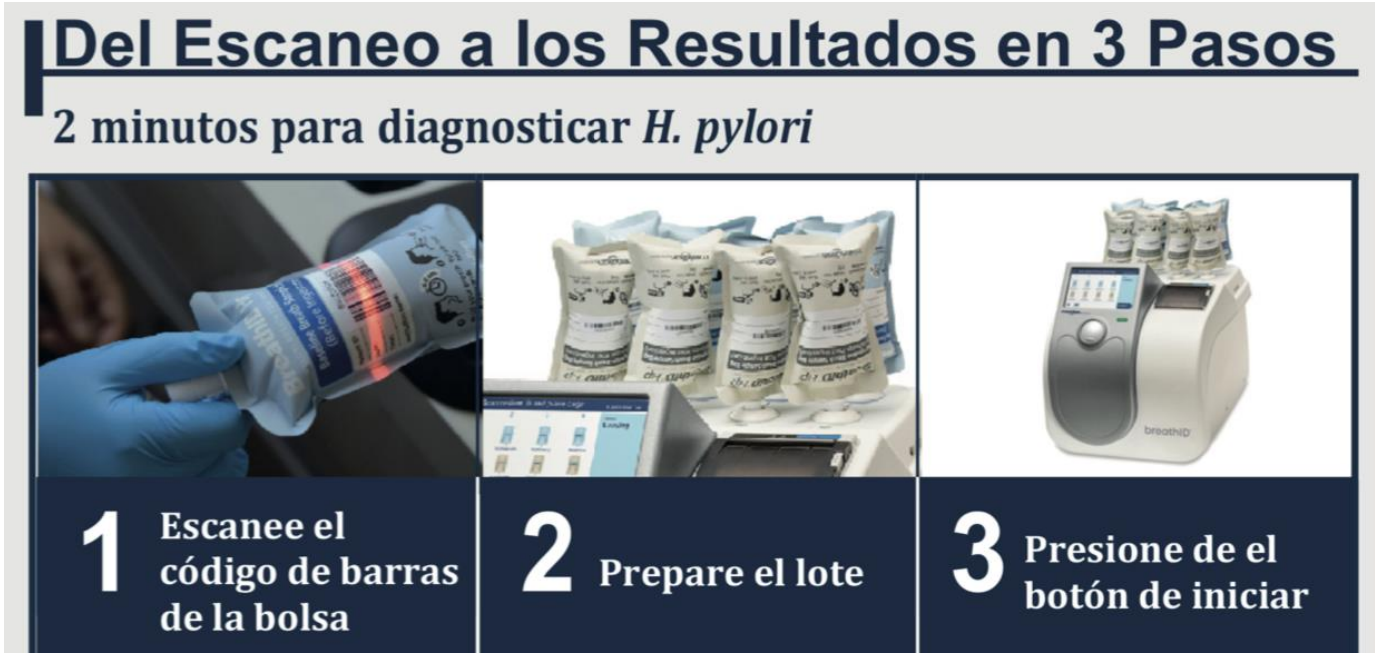
>4 semanas métodos infección activa
Antígenos fecales (Acs Monoclonales)
Test respiratorio con urea (UBT) C^{13} C^{14}
Suspender IBP 2 semanas, AB 4 semanas

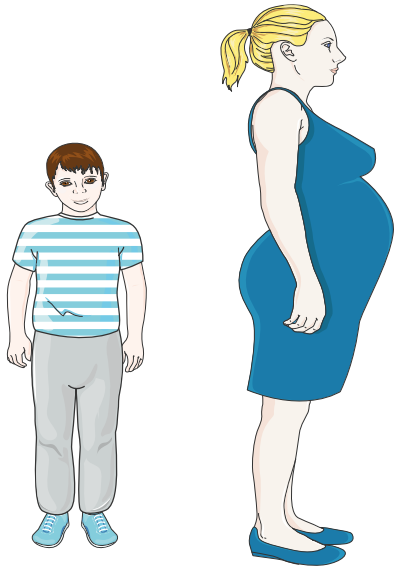
Malfertheiner P, Gut 2022 on line agosto 20
Chey WD, Am J Gastroenterol 2017;112:212-39
Gisbert JP, Gastroenterol Hepatol 2016;39:697-721



D.Y. Graham, et al. J Adv Res 2018;13:51-7

UBT C^{13} No radiactivo





Board Review Gastroenterology 202
Maastricht 2022, Belgica 23

Maastricht VI

WG 2: DIAGNOSTICS

***Statement 1*: In young dyspeptic patients (age below 50) with no specific risk and no alarm symptoms, non-invasive testing for *H. pylori* infection is recommended.**

Agreement 97% **Grade A1**

include ^{13}C urea breath test (UBT), stool antigen tests (SAT), and serological tests for IgG anti-*H. pylori* antibodies. IgG antibody tests do not differentiate between active and prior infections and are therefore not suitable to evaluate the success of eradication treatments. All tests have specific limitations in certain groups of

Malfertheiner P, Gut 2022 Online agosto 15

Belga

H. pylori Non-invasive Tests	Sensitivity % (95%CI)	Number of patients (Number of studies)	Advantages	Disadvantages
Stool antigen test	83 (73-90)	2988 (29)	Easy to perform and inexpensive Possible at home	Low acceptance
C13 UBT	94 (89-97)	3139 (34)	More sensitive Recommended	At the hospital More expensive
Serology	84 (74-91)	4242 (34)	Easy and inexpensive Epidemiological studies	Does not differentiate between past or active infection

Table 2. — **Comparison of invasive diagnostic methods for *H. pylori* before eradication**

H. pylori Invasive Tests	Sensitivity (%)	Specificity (%)	Advantages	Disadvantages
RUT	91-98.5	90.9-100	Effective, fast and cheap Possible in emergency room	No diagnosis of gastritis or preneoplastic lesions Less available
Culture	68-98	100	AST to all antibiotics Research	Sensitivity depends on preanalytic conditions Time consuming
Histology (Hematoxylin-Eosin)	92-98.8	89- 00	*Gold standard* before eradication Diagnosis of chronic gastritis and early gastric neoplastic lesions	More expensive if immunohistochemistry Sensitivity depends on bacterial load
Molecular diagnosis (PCR)	97-100	98	AST Better sensitivity	Kits for AST for 1 or 2 antibiotics only Less available

Garcés-Duran R, Acta GastroEnterol Belg, 2023;86;75-91

H.pylori encontrado = *H. pylori tratado*

Sugano K, Kyoto Consensus. Gut 2015;65:1353-67

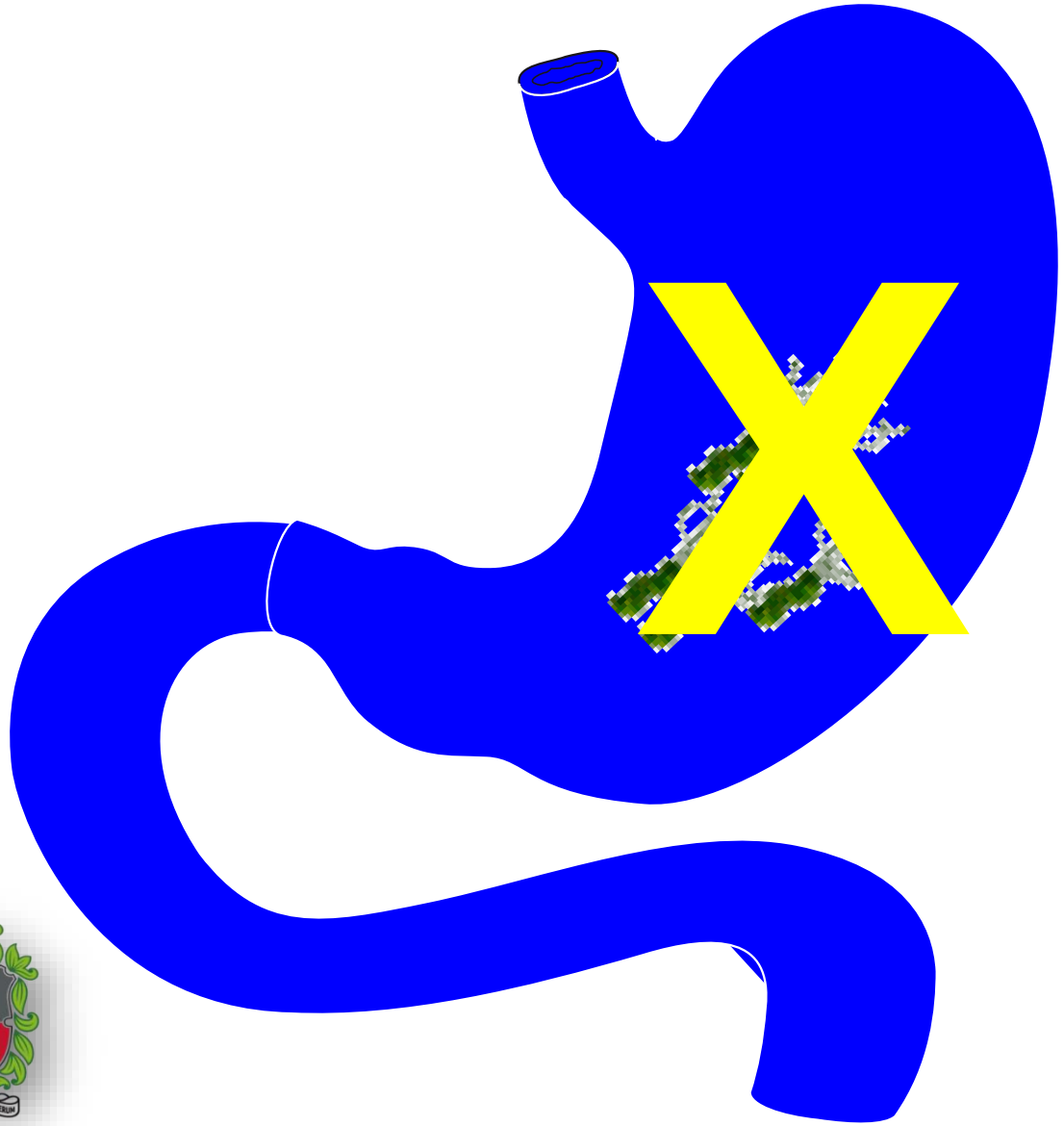
Mensajes para la casa

H.pylori **se adquiere en la infancia**
La infección *H.pylori* es asintomática 80%
Síntomas aparecen cuando hay complicaciones
Produce más de 1 millón de muertes cada año
Diagnóstico debe ser exacto antes del tratamiento
Verificar curación después 4 semanas
Siempre que sea positivo hay que tratarlo

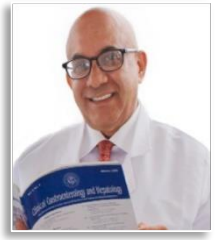
Muchas gracias !

Curso de actualización para El Primer Nivel de Atención En Gastroenterología

Capna Gastro 2023



Actualización sobre *Helicobacter pylori: Beneficios e impacto al curar la infección*



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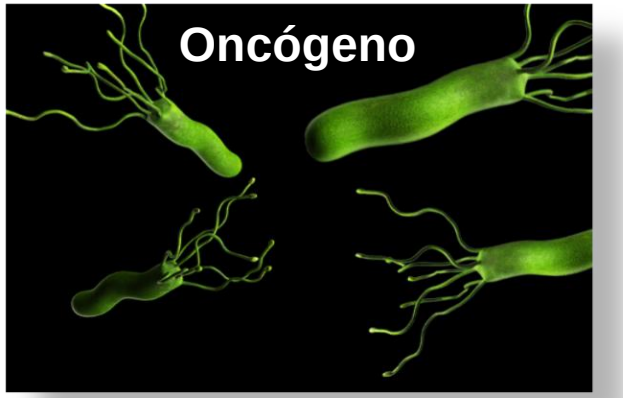
Universidad Nacional de Colombia
Hospital Universitario Nacional de Colombia

Beneficios al curar H.pylori

Beneficios al curar *H.pylori*

Fuccio L, Ann Intern Med 2009;151:121-8
Malferteheiner P, Gut 2012;61:646-64
BOARD 2022

Erradicarlo disminuye o NO el riesgo de cáncer gástrico?



H.pylori
OMS IARC1994/2009
Carcinógeno tipo I

60% mundo
Tiene *H.pylori*

1.220.000 casos
2017
800.000 muertes

1-3%

Riesgo atribuible
Global 85-90%
Japón Korea 90-95%

Graham DY, Gastroenterology 2015;148:719-31
Tsuda M, Helicobacter 2017;e12415

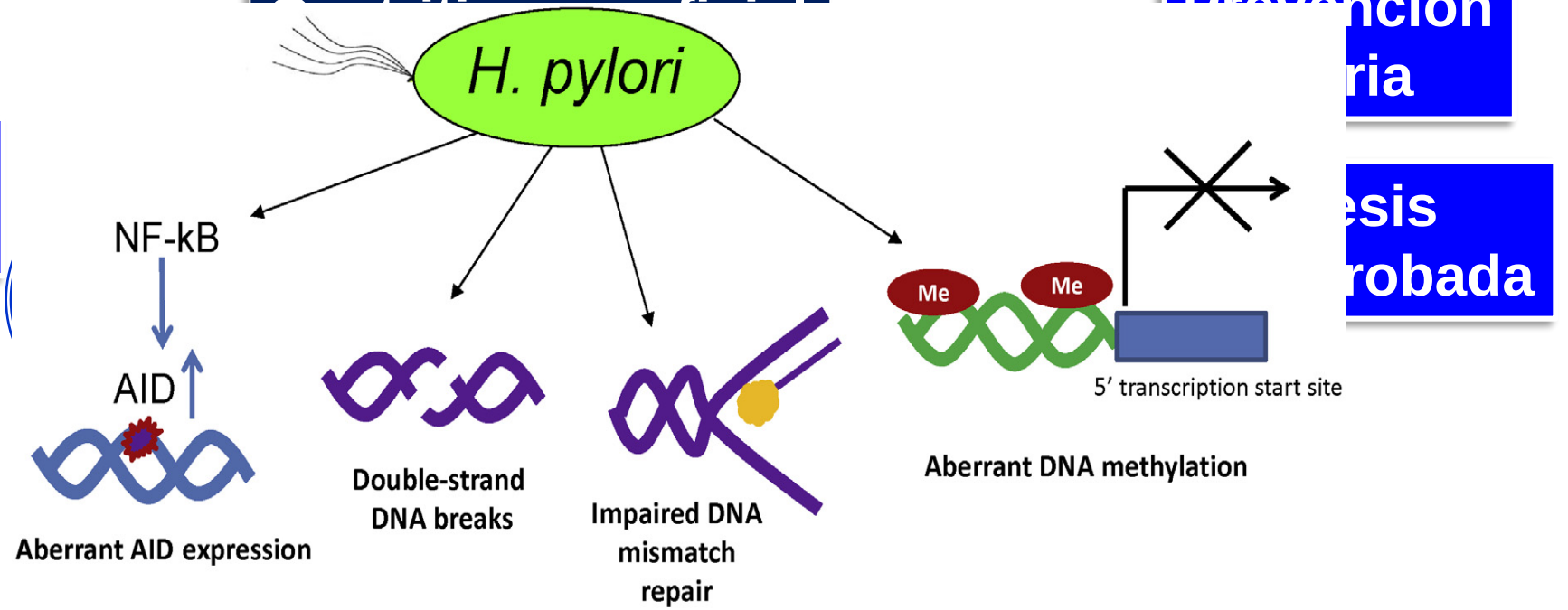
Lancet Gastroenterol Hepatol 2020;5:42-54
Global Burden Disease. JAMA Oncol 2017;3:524-41

Cáncer Gástrico modelo Pelayo Correa

Mucosa sana

Estratificando severidad

Vigilancia Prevención Secundaria



Cáncer gástrico

Correa P. Cancer Res 1992; 52:6735–6740
Correa P. J Dig Dis 2012;13:2-9
Chen HN, Gastric Cancer 2016;19:166-7

Erradicación *H.pylori*
Prevención primaria

↓

↓ *cáncer gástrico*

Evidencias 2023

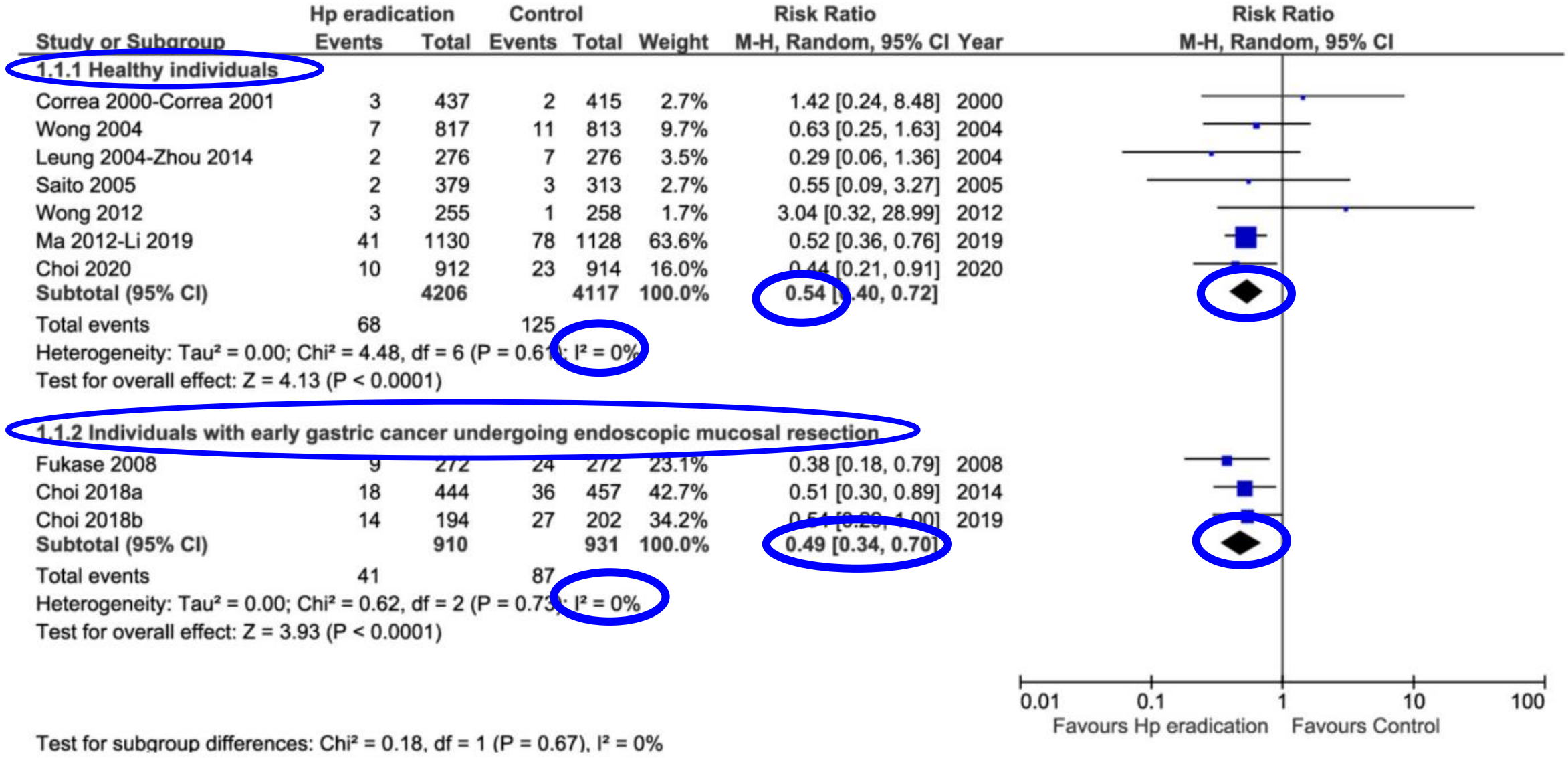
Helicobacter pylori eradication therapy to prevent gastric cancer: systematic review and meta-analysis

Alexander Charles Ford ,[1,2] Yuhong Yuan,[3] Paul Moayyedi[3]

10 ensayos clínicos
8323 individuos sanos
1841 pacientes Ca gástrico

Ford AC, Gut 2020;69:2113–21.

Cáncer gástrico erradicación



Ford AC, Gut 2020;69:2113–21.

Helicobacter pylori eradication therapy to prevent gastric cancer: systematic review and meta-analysis

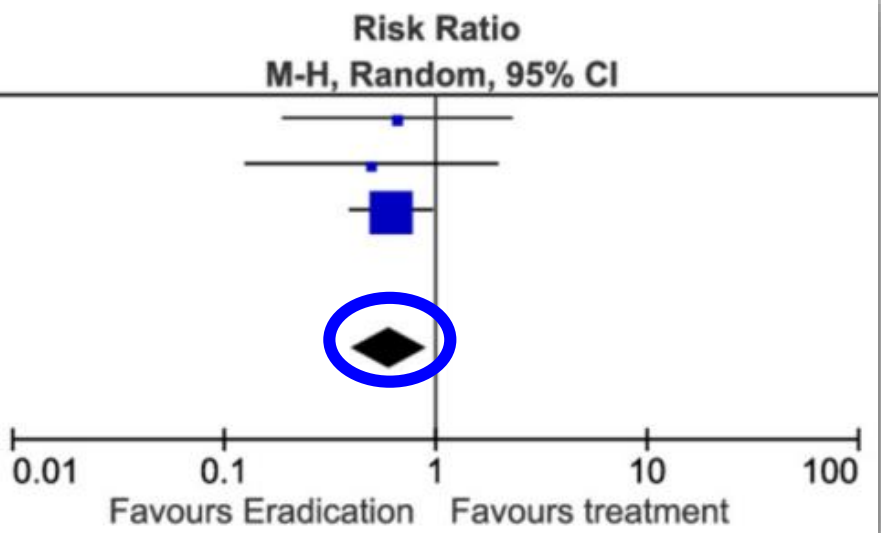
Alexander Charles Ford ,[1,2] Yuhong Yuan,[3] Paul Moayyedi[3]

Mortalidad por Cáncer Gástrico

Study or Subgroup	Hp eradication Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
Leung 2004-Zhou 2014	4	295	6	292	10.6%	0.66 [0.19, 2.31]	2004
Wong 2004	3	817	6	813	8.7%	0.50 [0.12, 1.98]	2004
Ma 2012-Li 2019	29	1130	47	1128	80.6%	0.62 [0.39, 0.97]	2019
Choi 2020	0	912	0	914		Not estimable	2020
Total (95% CI)		**3154**		**3147**	**100.0%**	**0.61 [0.40, 0.92]**	
Total events	36		59				

Heterogeneity: Tau² = 0.00; Chi² = 0.10, df = 2 (P = 0.95); I² = 0%

Test for overall effect: Z = 2.38 (P = 0.02)

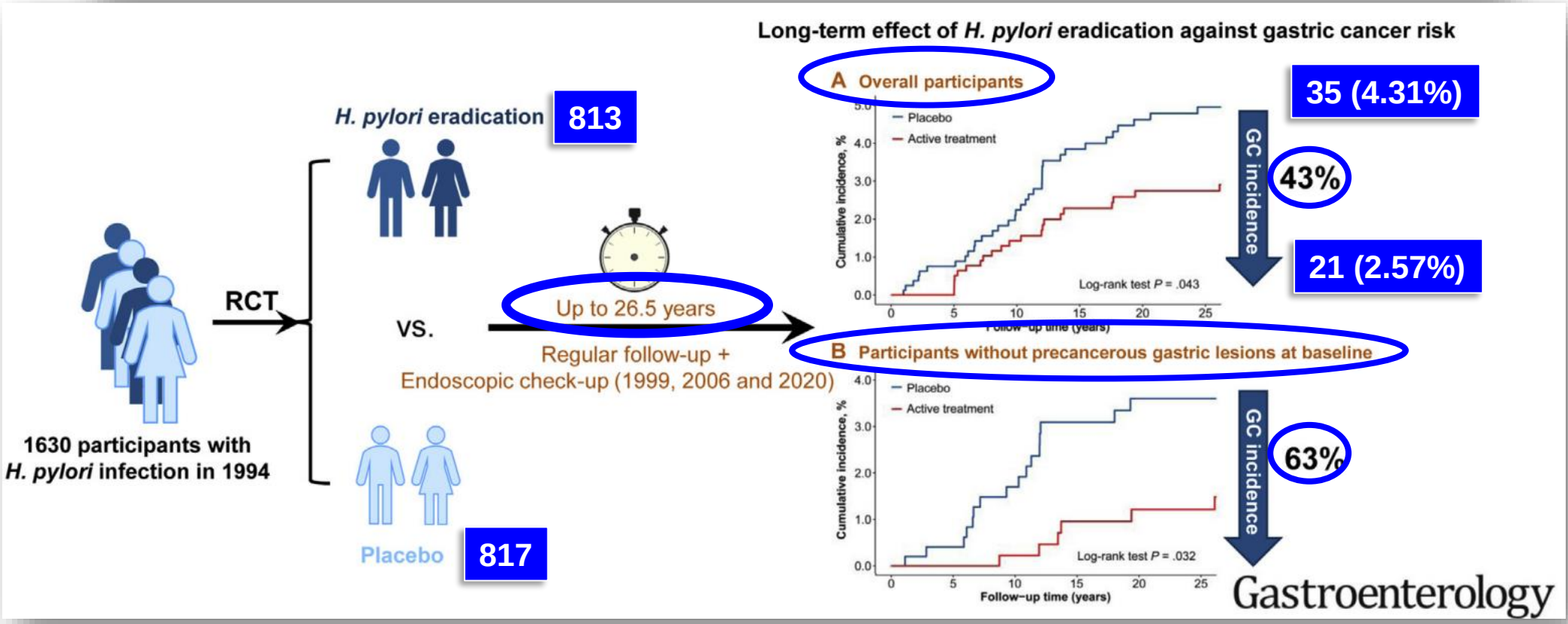


Ford AC, Gut 2020;69:2113–21.

China

Effect of *Helicobacter pylori* Eradication on Gastric Cancer Prevention: Updated Report From a Randomized Controlled Trial With 26.5 Years of Follow-up

Lingjun Yan,[1,2,*] **Ying Chen**,[3,4,*] Fa Chen,[1,2] Tao Tao,[1,2] Zhijian Hu,[1,2] Junzhuo Wang,[1,2] Jianwang You,[4] Benjamin C. Y. Wong,[5] Jianshun Chen,[3,4] and Weimin Ye[1,2,6]



Yan L, Gastroenterology 2022;163:154-62

Refrigerar

Prevención Primaria Cáncer Gástrico

Licor

Erradicar *H.pylori*

OMS 2020

Yang L, Chin J Cancer Res 2020;32:695-704

ORIGINAL ARTICLE

WILEY Helicobacter

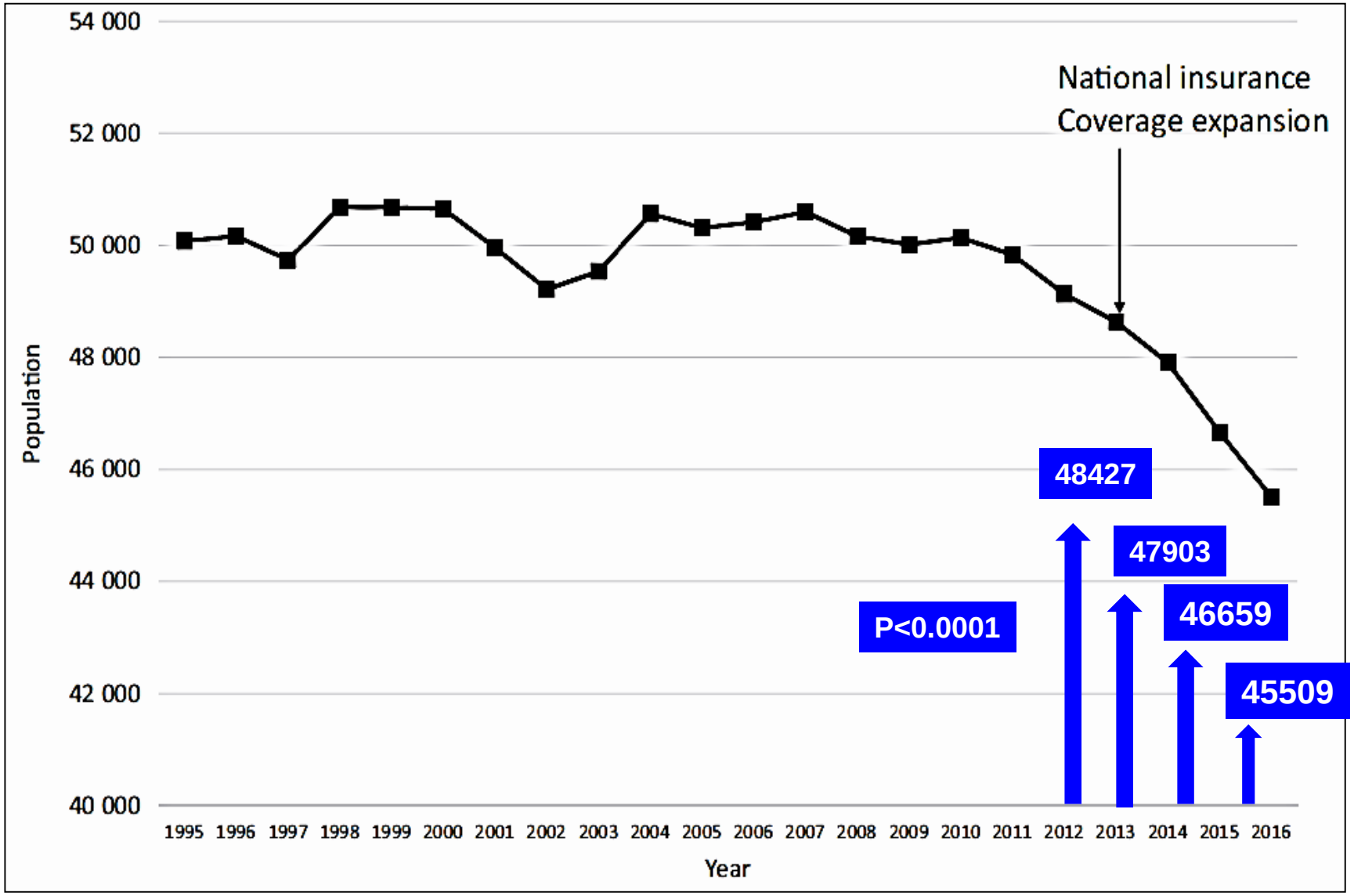
Effect on *Helicobacter pylori* eradication therapy against gastric cancer in Japan

Momoko Tsuda[1] | Masahiro Asaka[2] | Mototsugu Kato[3] | Rumiko Matsushima[1] | Kenji Fujimori[4] | Kozo Akino[2] | Shogo Kikuchi[5] | Yingsong Lin[5] | Naoya Sakamoto[1]

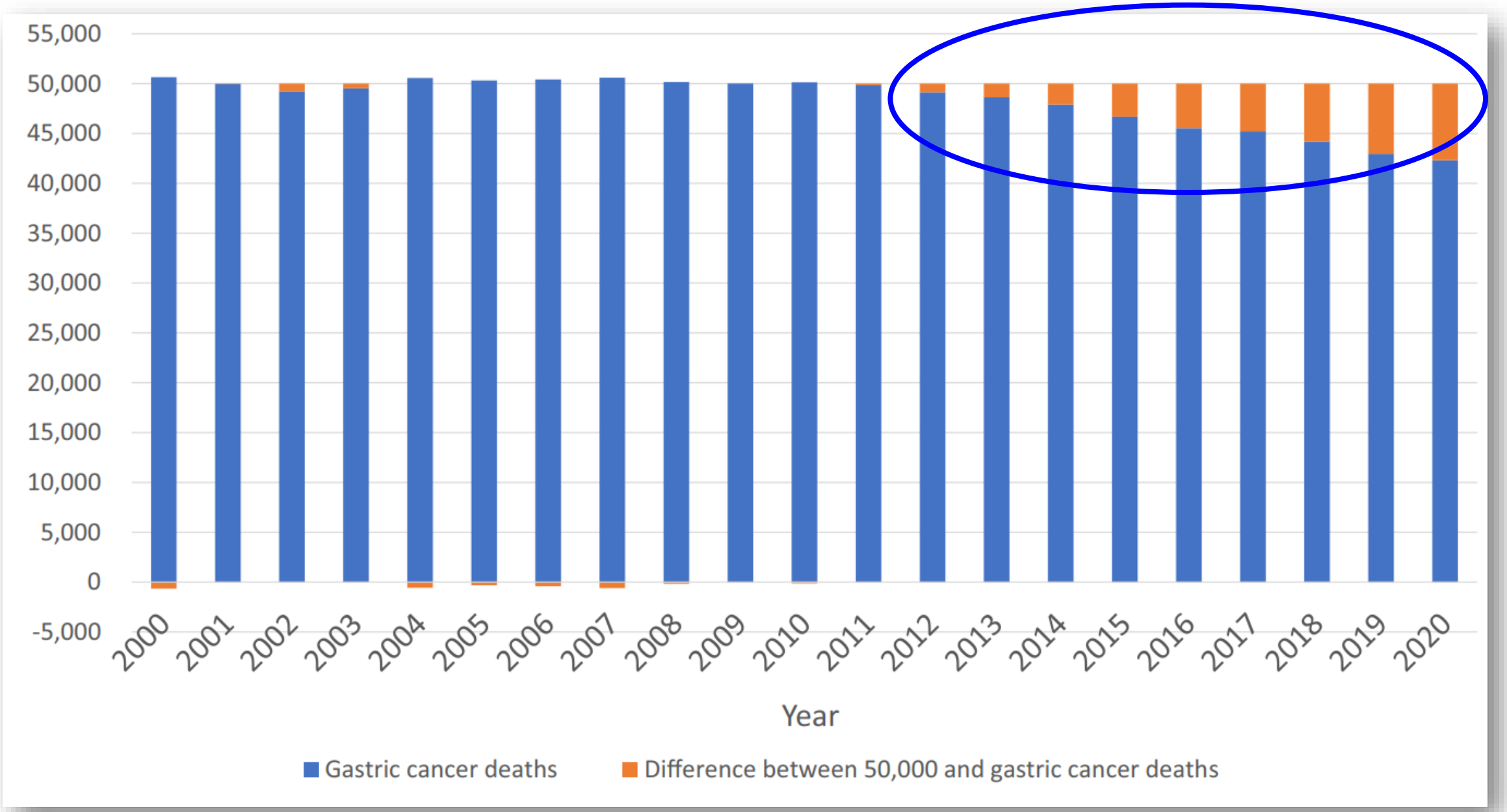
Durante décadas: prevención secundaria (Rx)
50.000 muertes/año, últimos 40 años (ningún cambio)

Tsuda M,Helicobacter. 2017;22:e12415

Erradicación de *Helicobacter* y cáncer en Japón

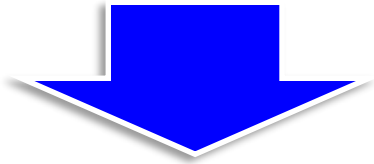


Helicobacter. 2017;22:e12415



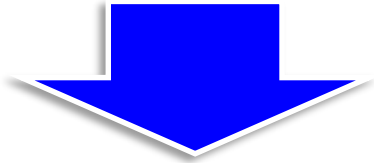
Kowada A, Helicobacter. 2021 Jul 18:e12837.

Prevención secundaria



Vigilar Gastritis crónica avanzada
Tamización endoscópica
Serología

Prevención secundaria



Vigilar Gastritis crónica avanzada

Endoscopios avanzados

William Otero

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

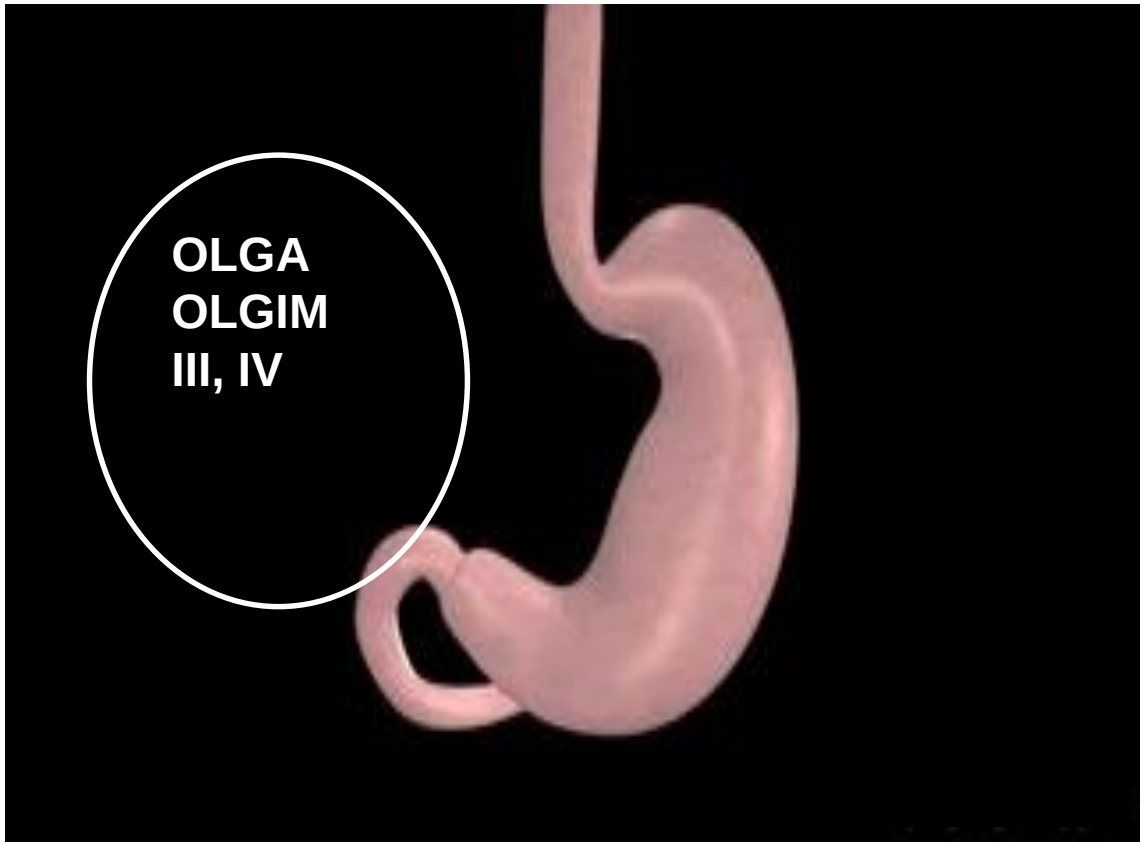
Peter Malfertheiner [1,2] Francis Megraud [3] Theodore Rokkas [4,5] Javier P Gisbert [6,7] Jyh-Ming Liou [8] Christian Schulz [1,9] Antonio Gasbarrini,[10] Richard H Hunt,[11,12] Marcis Leja [13,14] Colm O'Morain,[15] Massimo Rugge [16,17] Sebastian Suerbaum,[9,18] Herbert Tilg [19] Kentaro Sugano [20]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

***Statement 3*: When endoscopy is indicated it should: (1) apply the best available technologies; (2) include biopsy sampling. Biopsy samples, as obtained in accordance with validated protocols, should result in both aetiological diagnosis and gastritis staging. Any focal lesions should be additionally sampled.**

Agreement 100% **Grade A2**

Malfertheiner P, Gut 2022 Online agosto 15

Estratificación de la atrofia o MI Biopsias Identificar el “Estómago premaligno”



Sugano K, Gut 2015;64:1353-67
Take S, J Gastroenterol 2020;55:281-8
Malfertheiner P, Maastricht VI. Gut 2022 Online agosto 15

The significance of OLGA and OLGIM staging systems in the risk assessment of gastric cancer: a systematic review and meta-analysis

Hu Yue[1,2] · Liu Shan[1] · Lv Bin[1,2]

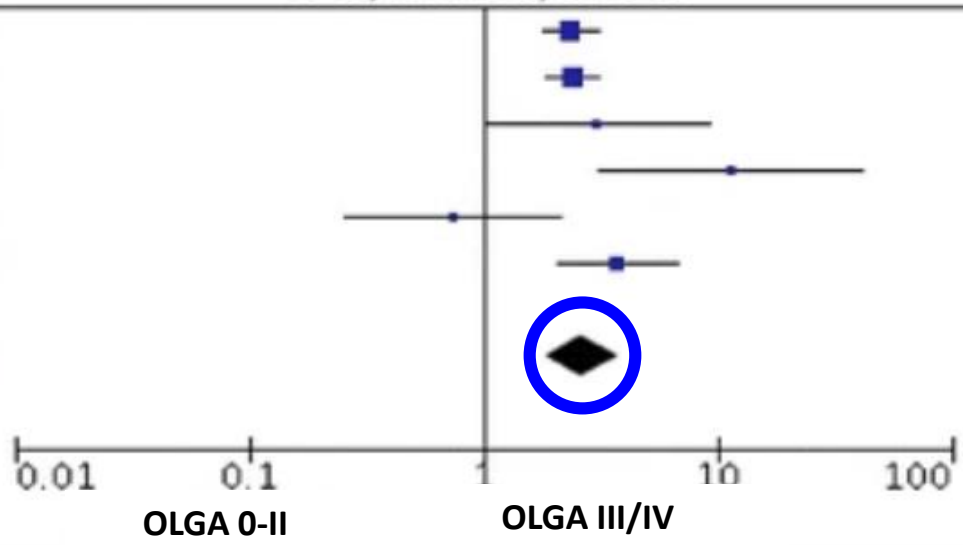
OLGA III/IV Casos y controles

Cáncer gástrico

Study or Subgroup	Experimental Events	Total	Control Events	Total	Weight	Odds Ratio M-H, Random, 95% CI
Cho 2013	219	474	126	474	29.4%	2.37 [1.81, 3.11]
Choi 2012	223	483	127	483	29.5%	2.40 [1.83, 3.15]
Kodama 2013	8	21	11	66	8.3%	3.08 [1.03, 9.18]
Satoh 2008	15	18	44	145	6.4%	11.48 [3.16, 41.66]
Tsai 2013	7	43	10	48	8.6%	0.74 [0.25, 2.15]
Zhou 2016	37	71	35	156	17.9%	3.76 [2.07, 6.85]
Total (95% CI)		**1110**		**1372**	**100.0%**	**2.64 [1.84, 3.79]**
Total events	509		353			

Heterogeneity: $Tau^2 = 0.10$; $Chi^2 = 12.53$, df = 5 (P = 0.03); $I^2 = 60\%$

Test for overall effect: Z = 5.30 (P < 0.00001)



Yue H, et al. Gastric Cancer 2018;21: 579–87

The significance of OLGA and OLGIM staging systems in the risk assessment of gastric cancer: a systematic review and meta-analysis

Hu Yue[1,2] · Liu Shan[1] · Lv Bin[1,2]

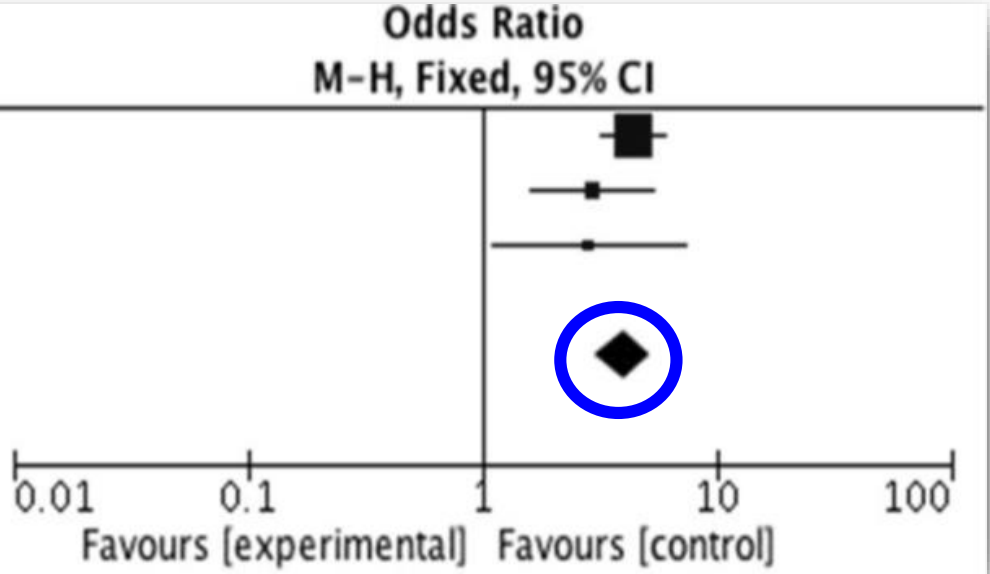
OLGIM III/IV, Casos y controles

Cáncer gástrico

Study or Subgroup	Experimental Events	Total	Control Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Cho 2013	204	474	69	474	70.6%	4.43 [3.24, 6.07]
Tsai 2013	30	71	31	156	20.1%	2.95 [1.60, 5.45]
Zhou 2016	17	43	9	48	9.2%	2.83 [1.10, 7.31]
Total (95% CI)		**588**		**678**	**100.0%**	**3.99 [3.05, 5.21]**
Total events	251		109			

Heterogeneity: $Chi^2 = 1.87$, $df = 2$ ($P = 0.39$); $I^2 = 0\%$

Test for overall effect: $Z = 10.17$ ($P < 0.00001$)



Yue H, et al. Gastric Cancer 2018;21: 579–87

Vigilancia de Gastritis Crònica
5 Biopsias: cuerpo (2), Antro (2), Incisura (1)

OLGA 0-II

- **Observar**
- **Historia Familiar CG**
  - **Vigilar cada 3 años**

Vigilar para detectar Cáncer Gástrico temprano

Tratamiento Endoscópico

OLGA III/IV

- **Vigilancia**
  - **Historia Familiar CG**
    - **Cada 1-2 a**
  - **Cada 3 años**

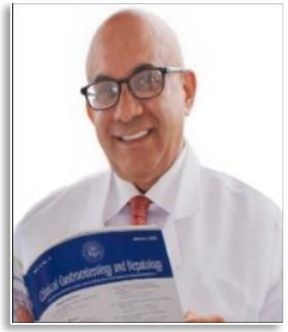
Sugano K, Kyoto Consensus. Gut 2015; 64:1353-67
Zagari RM, Dig Liver Dis 2015;903-12
Rollán A, Rev Med Chile 2014;142:1181-92
Yue H, Gastric Cancer 2018;21:579-87
Shah SC Gastroenterolofy 2021;161:1325-32
Pimentel-Nunes P, Endoscopy 2019;51:365-88

Muchas gracias !

Curso de actualización para El Primer Nivel de Atención En Gastroenterología

Capna Gastro 2023

Actualización sobre *Helicobacter pylori: Esquemas de tratamiento*



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

Canal de YouTube : William otero Gastroenterologo”

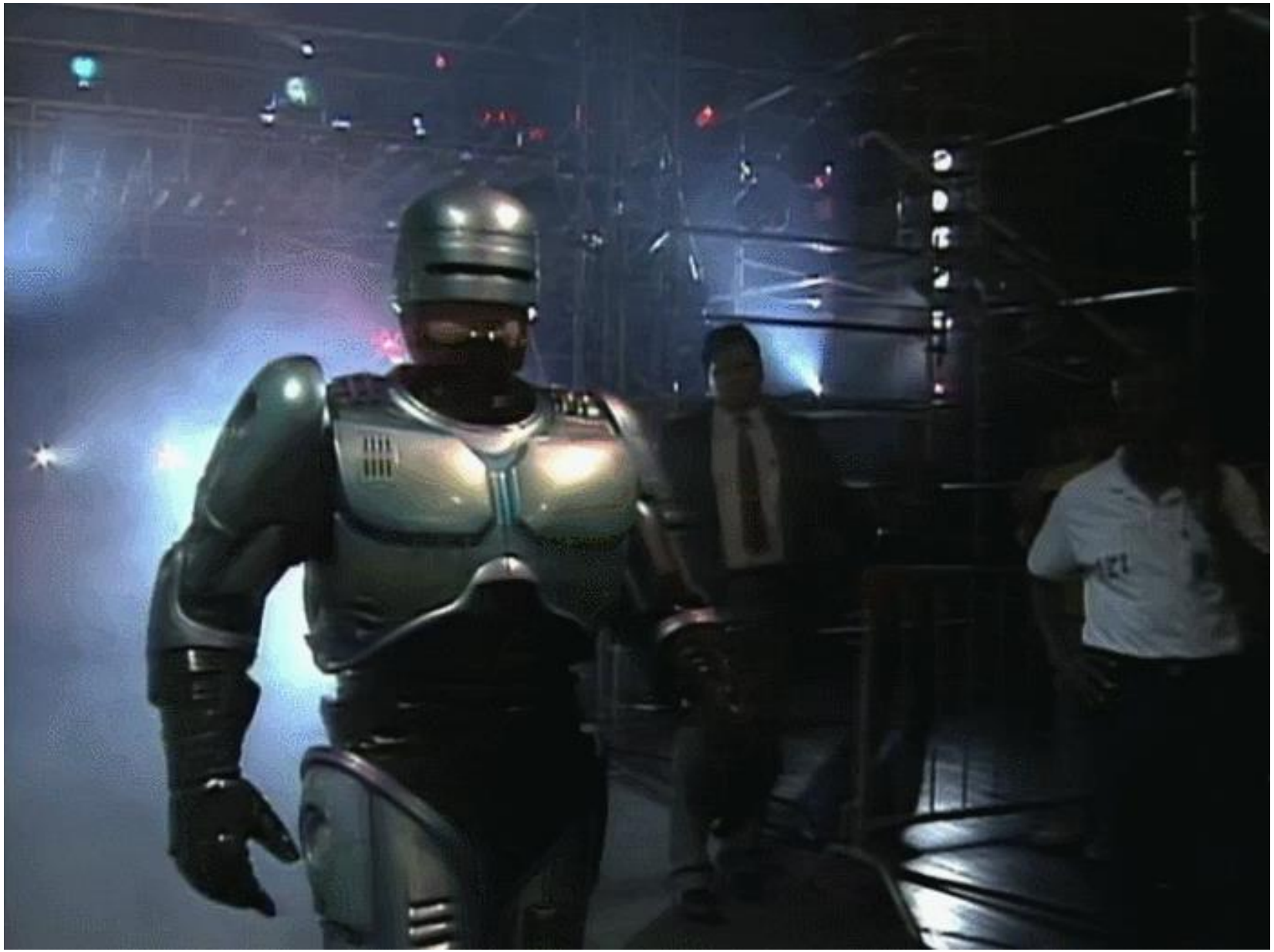
Curación *H.pylori*

1982

No hay tratamiento universal

Terapias locales optimizadas
Farmacogenética IBP
Patrón de resistencia

H.pylori, muy difícil de matar



Como toda infección
Pruebas susceptibilidad

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

Terapia basada en Pruebas susceptibilidad

Versus

Terapias empíricas

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]*

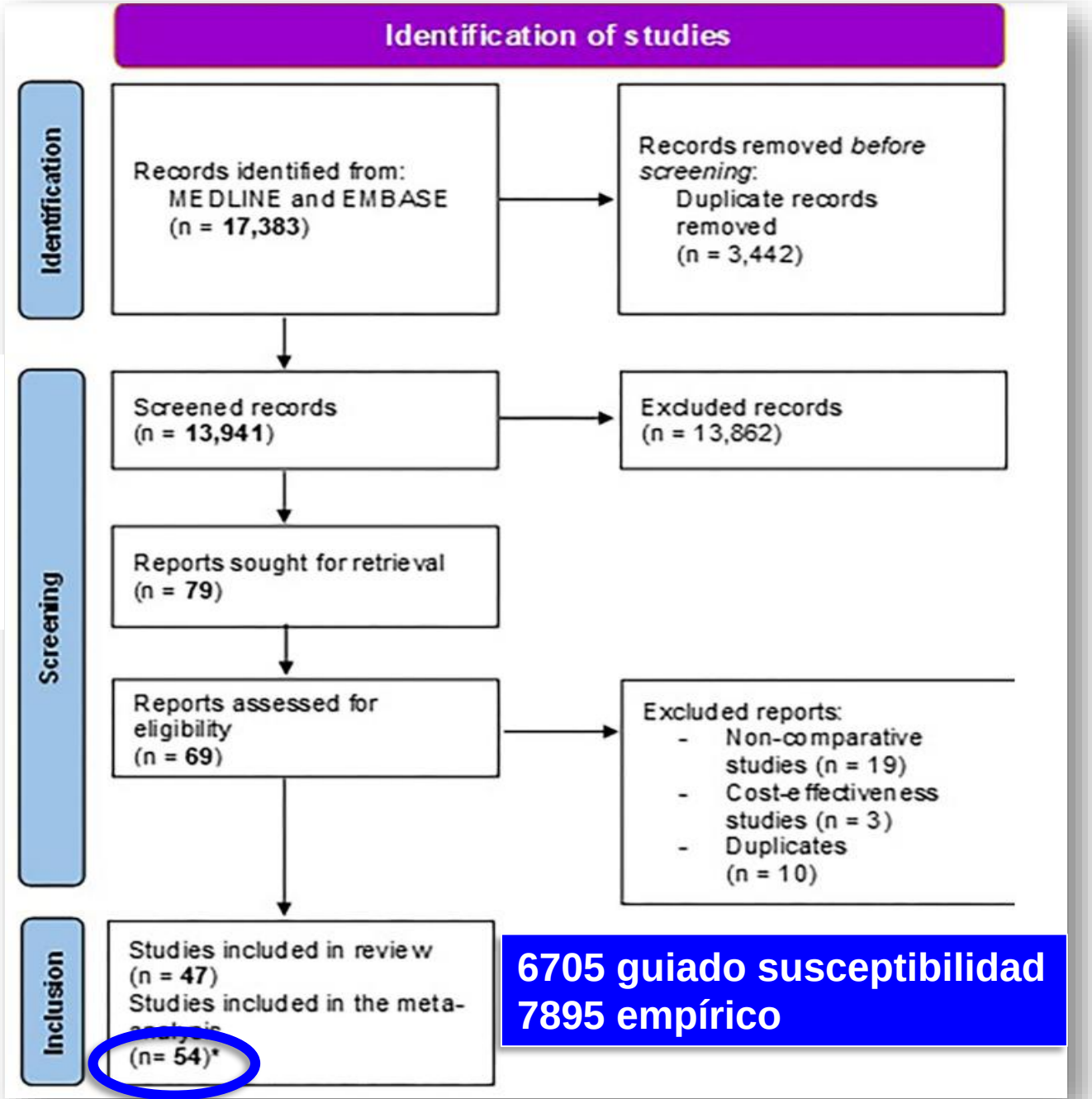
[1] *Gastroenterology Unit, Instituto de Investigación Sanitaria Princesa (IIS-Princesa), Hospital Universitario de La Princesa, Madrid, Spain,* [2] *Universidad Autónoma de Madrid (UAM), Madrid, Spain,* [3] *Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBEREHD),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

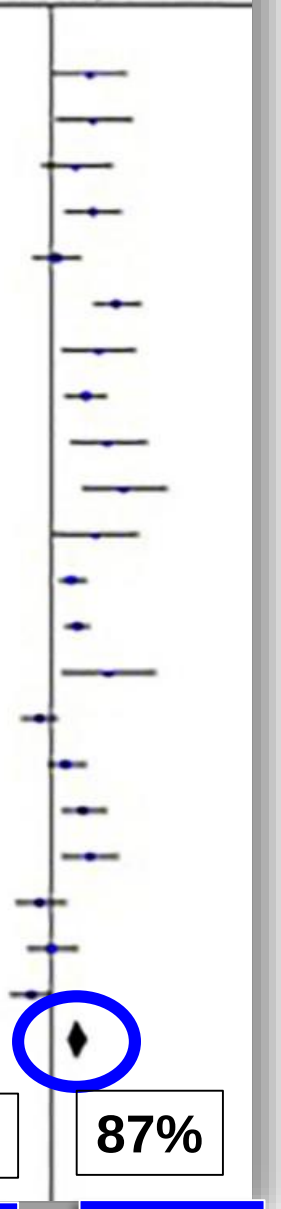
[1] Gastroenterology Unit, Instituto de Investigación Sanitaria Princesa (IIS-Princesa), Hospital Universitario de La Princesa, Madrid, Spain, [2] Universidad Autónoma de Madrid (UAM), Madrid, Spain, [3] Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBEREHD), Madrid,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

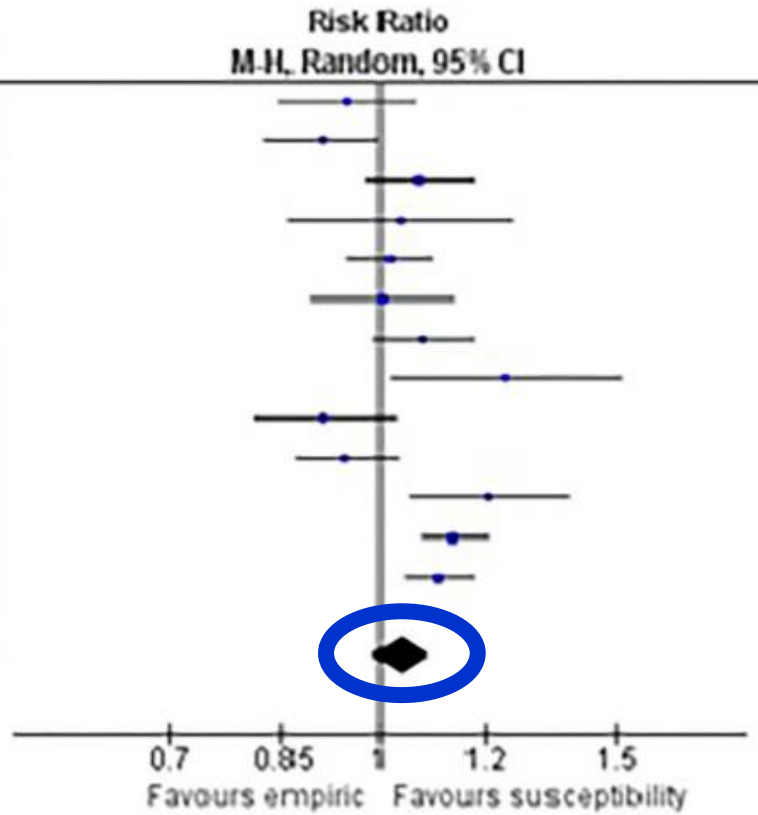
*Olga P. Nyssen [1,2,3], Marta Espada [1,2,3] and Javier P. Gisbert [1,2,3]**

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: $Tau^2 = 0.07$; $Chi^2 = 25.15$, df = 4 ($P < 0.0001$); $I^2 = 84\%$

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

El beneficio de las terapias Guiadas no fue demostrado

1.5.4 All

Avidan 2

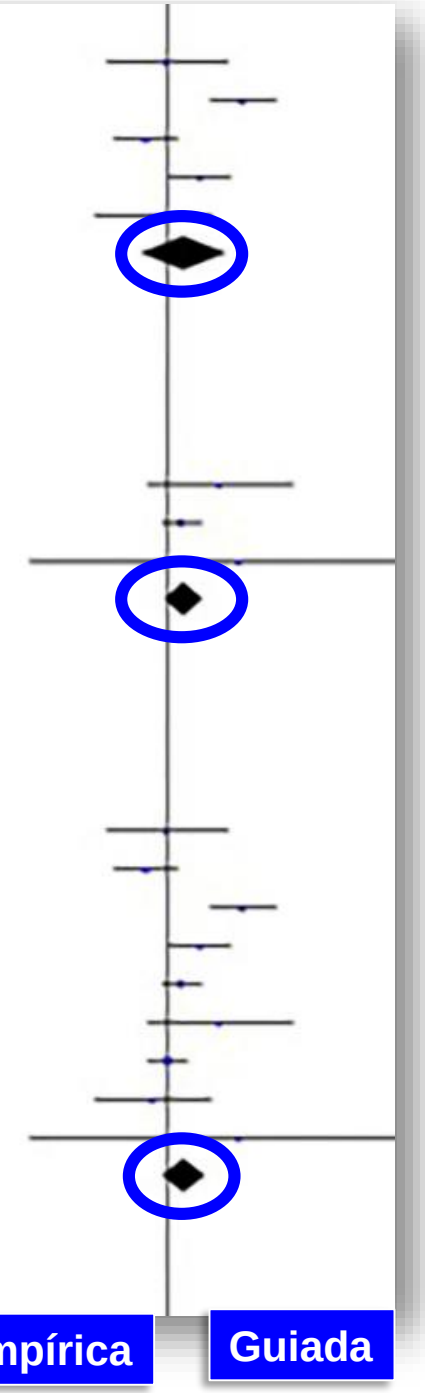
Miwa 20

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: $Tau^2 = 0.02$; $Chi^2 = 25.47$, df = 8 ($P = 0.001$); $I^2 = 69\%$

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

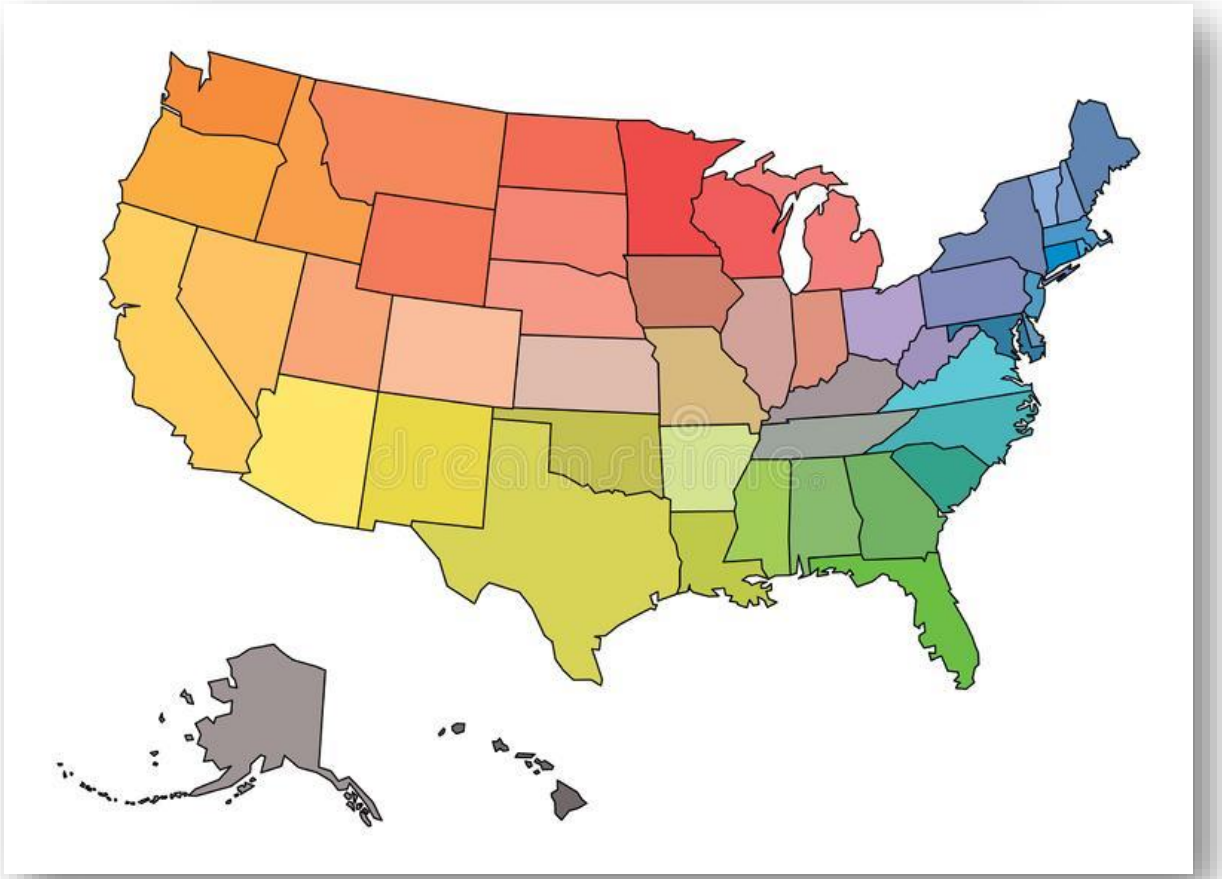


Empírica

Guiada

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

Helicobacter pylori



Resistencias

Claritromicina
> 15%

Levofloxacina
>15%

Metronidazol
>60%

No están disponibles
No existen
Todos los antibióticos

Mundialmente por fuera de USA

No hay disponibilidad Pruebas susceptibilidad

Optimizar Tratamiento empírico

Resistencia

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, Maastricht VI, Gut 2022,Online agosto 8

Resistencia a claritromicina > 15% o desconocida

Primera Línea

1ª opción Cuádruple Bismuto

Falla

2ª opción Cuádruple sin bismuto: Concomitante
IBP + Amoxicilina +Claritromicina+ metronidazol

Falla

Segunda Línea

Triple-Cu
IBP+Levo

Cuádruple

Triple/Cuádruple
ofloxacina

Falla

ádruple
Bismuto

Falla

Esto es una propuesta
Nadie lo ha verificado

Tercera Línea

Triple Rifabutina
Bismuto + otros antibióticos
Amoxi-Claritromicina-Metr

Triple-Levo

Falla

Triple Rifabutina

Falla

Triple Rifabutina

Terapia Dual

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

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

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

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

Aliment Pharmacol Ther 2008;27, 346–354

Tratamiento *H.pylori* 2023

Uno o más antibióticos

- Amoxicilina
- Tetraciclina
- Claritromicina
- Metronidazol
- Quinolonas
- Furazolidona
- Bismuto
- Rifabutina

LATAM Terapia cuádruple con bismuto 14 días

IBP +

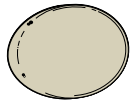
30 min antes desayuno
30 min antes de cena

Bismuto SS

Inmediatamente antes del desayuno
Inmediatamente antes de cena

+

Tetraciclina 500 mg



Cada seis horas
Una después de cada comida y 10 pm

+

Metronidazol 500 mg

Cada seis horas
Una después de cada comida y 10 pm

90-95% éxito independiente de resistencia

Bismuto dos veces al día

Year	Location	Bismuth[a]	Tetracyc	Metro	Meals	PPI**	Days	No.	PP%	ITT%	Ref.
1997	USA	BSS 524 b.i.d.	500 b.i.d.	500 b.i.d.	AM, PM	L 15 b.i.d.	10	46	75	70	56
2002	Italy	BSC 240 b.i.d.	500 b.i.d.	500 b.i.d.	Noon, PM	P 20 b.i.d.	14	118	98	95	52
2003	Italy	BSC 240 b.i.d.	500 b.i.d.	500 b.i.d.	Noon, PM	P 20 b.i.d.	14	71	97	93	53
2004	USA	BSS 524 b.i.d.	500 b.i.d.	500 b.i.d.	AM, PM	R 20 b.i.d.	14	37	92.3	92.3	56
2006	Italy	BSC 240 b.i.d.	500 b.i.d.	500 b.i.d.	AM, PM	E 20 b.i.d.	10	95	95	91	55
2009	China	BSC 220 b.i.d.	750 b.i.d.	400 b.i.d.	AM, PM	P 40 b.i.d.	7	43	82.9	79.1	57
2009	China[a]	BSC 220 b.i.d.	750 b.i.d.	400 b.i.d.	AM, PM	P 40 b.i.d.	10	45	90.9	88.9	57
2010	China[a]	BSC 220 b.i.d.	750 b.i.d.	400 b.i.d.	AM, PM	P 40 b.i.d.	10	85	91.6.	89.9	58
2011	Italy	BSC 240 b.i.d.	500 b.i.d.	500 b.i.d.	Noon, PM	P 20 b.i.d.	14	202	98	92	109
2011	Italy	BSC 240 b.i.d.	500 b.i.d.	500 b.i.d.	Noon, PM	P 20 b.i.d.	10	215	95	92	109
2013	Turkey	BSC 600 b.i.d.	500 b.i.d.	500 b.i.d.	AM, PM	O 20 b.i.d.	14	38	86.8	73.3	110
2005	Iran	BSC 240 b.i.d.	500 b.i.d.	500 b.i.d	AM, PM	O 20 b.i.d.	14	76	-	76.3	111
2006	Iran[a]	BSC 240 b.i.d.	750 b.i.d.	500 b.i.d.	AM, PM	O 20 b.i.d.	3	40	54	50	75
2006	Iran[a]	BSC 240 b.i.d.	750 b.i.d.	500 b.i.d.	AM, PM	O 20 b.i.d.	7	41	45.9	41.4	75
2006	Iran[a]	BSC 240 b.i.d.	750 b.i.d.	500 b.i.d.	AM, PM	O 20 b.i.d.	14	40	40	35	75

Graham DY, Gastroenterol Clin N Am 2015;44: 537–563

Colombia y LATAM

~~IBP en ntes d~~
~~Amoxi 875 g c/6h +~~
~~Claritromici O~~
~~*Levoflo 00 mg/ 1*~~

Sólo con pruebas de susceptibilidad

Empíricamente Agregando bismuto

Lee YC, Annu Rev Med 2022; 73:183-95
Ko SW, Helicobacter 2019;24:e12570
Gilbert JP, Moleculas 2020;25:5084

Efficacy of bismuth for antibiotic-resistant *Helicobacter pylori* strains eradication: A systematic review and meta-analysis

Zhongxue Han[1,2,3] | Yueyue Li[1,2,3] | Qingzhou Kong[1,2,3] | Jing Liu[1,2,3] | Juan Wang[1,2,3] | Meng Wan[1,2,3] | Minjuan Lin[1,2,3] | Boshen Lin[1,2,3] | Wenlin Zhang[1,2,3] | Yuming Ding[1,2,3] | Shaotong Wang[1,2,3] | Yijun Mu[1,2,3] | Miao Duan[1,2,3] | Xiuli Zuo[1,2,3] | Yan-qing Li[1,2,3]

Triple con Metron
87% vs 61%

Resistencia dual
Claritro-Metron
77% vs 18%

Triple con claritro
77% vs 37%

Han Z, et al. Helicobacter. 2022;27:e12930.

Combination of Bismuth and Standard Triple Therapy Eradicates *Helicobacter pylori* Infection in More than 90% of Patients

Adrian G. McNicholl,[*] Dmitry S. Bordin,[‡] Alfredo Lucendo,[§] Galina Fadeenko,[‖] Manuel Castro Fernandez,[¶] Irina Voynovan,[#] Natalia Valerievna Zakharova,[**] Aiman Silkanovna Sarsenbaeva,[‡‡] Luis Bujanda,[§§] Ángeles Perez-Aisa,[‖‖] Liudmila Vologzhanina,[¶¶] Oleg Zaytsev,[##] Tatiana Ilchishina,[***] Cristobal de la Coba,[‡‡‡] Jorge Perez Lasala,[§§§] Sergey Alekseenko,[‖‖‖] Ines Modolell,[¶¶¶] Javier Molina-Infante,[###] Rafael Ruiz-Zorrilla Lopez,[****] Horacio Alonso-Galan,[§§] Nuria Fernandez Moreno,[‖‖] Jen Hinojosa,[‖‖] Inmaculada Santaella,[‖‖] Pilar Varela,[‡‡‡] Pedro Luis Gonzalez-Cordero,[###] Jesus Barrio,[‡‡‡‡] Jose Luis Dominguez-Jimenez,[§§§§] Oscar Nuñez,[‖‖‖‖] Javier Alcedo,[¶¶¶¶] Olga P. Nyssen,[*] Maria Caldas,[*] Maria G. Donday,[*] Oleg Shvetz,[####] Francis Megraud,[*****] Colm O'Morain,[‡‡‡‡‡] and Javier P. Gisbert[*]

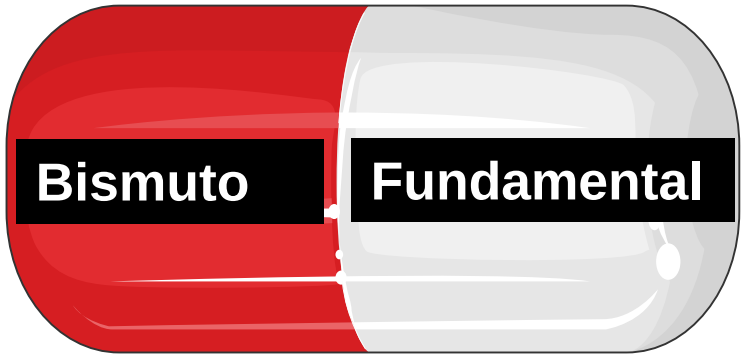
1141 pacientes "naive"

Amoxicilina+ clariromicina+ Bismuto+1bp 14 días

90%

Clin Gastroenterol Hepatol 2020;18:89-98

7 terapias



Cuádruple Clásica
IBP + Tetracicl + Metronid + *Bi*

Triples tradicionales
IBP + Amox + Clar +*Bi*

IBP + Amox + levo+ *Bi*

IBP + Amox + Metr + *Bi*

20-30%

Cuádruple FRZ
IBP + FRZ + Tetrac + *Bi*

Cuádruple FRZ
IBP + FRZ+ Amox + *Bi*

Otras Cuádruples
IBP + Amoxi +Tetraci + Bi

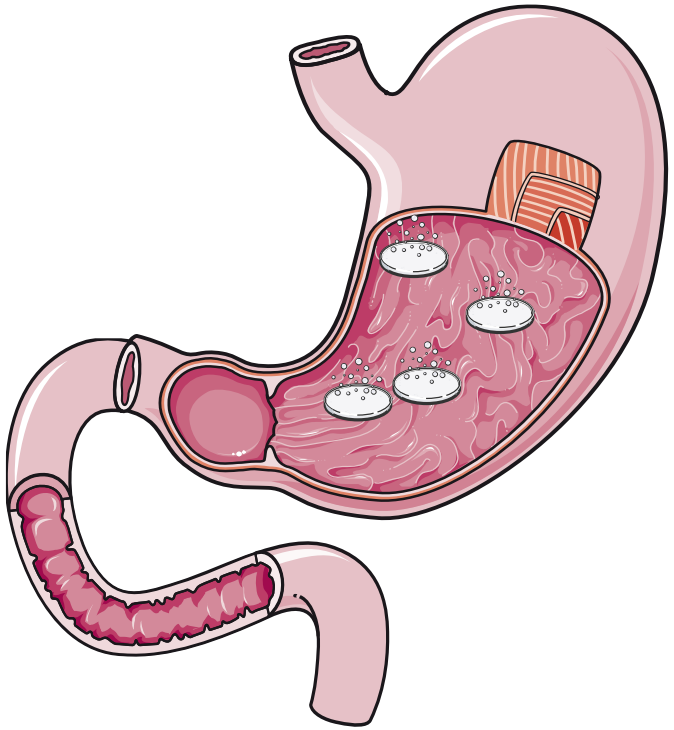
Otero W, Rev Col Gastroenterol 2022, sometido a publicación
Cho JH, et al. World J Clin Cas 2022;10:6349-59

Dual
14 dìas

Amoxicilina optimizada
1gr 3v/dia o 1 gr cada 6h (peso)

Dosis altas IBP 3 v/dia

Consensos
Rescate



ORIGINAL ARTICLE

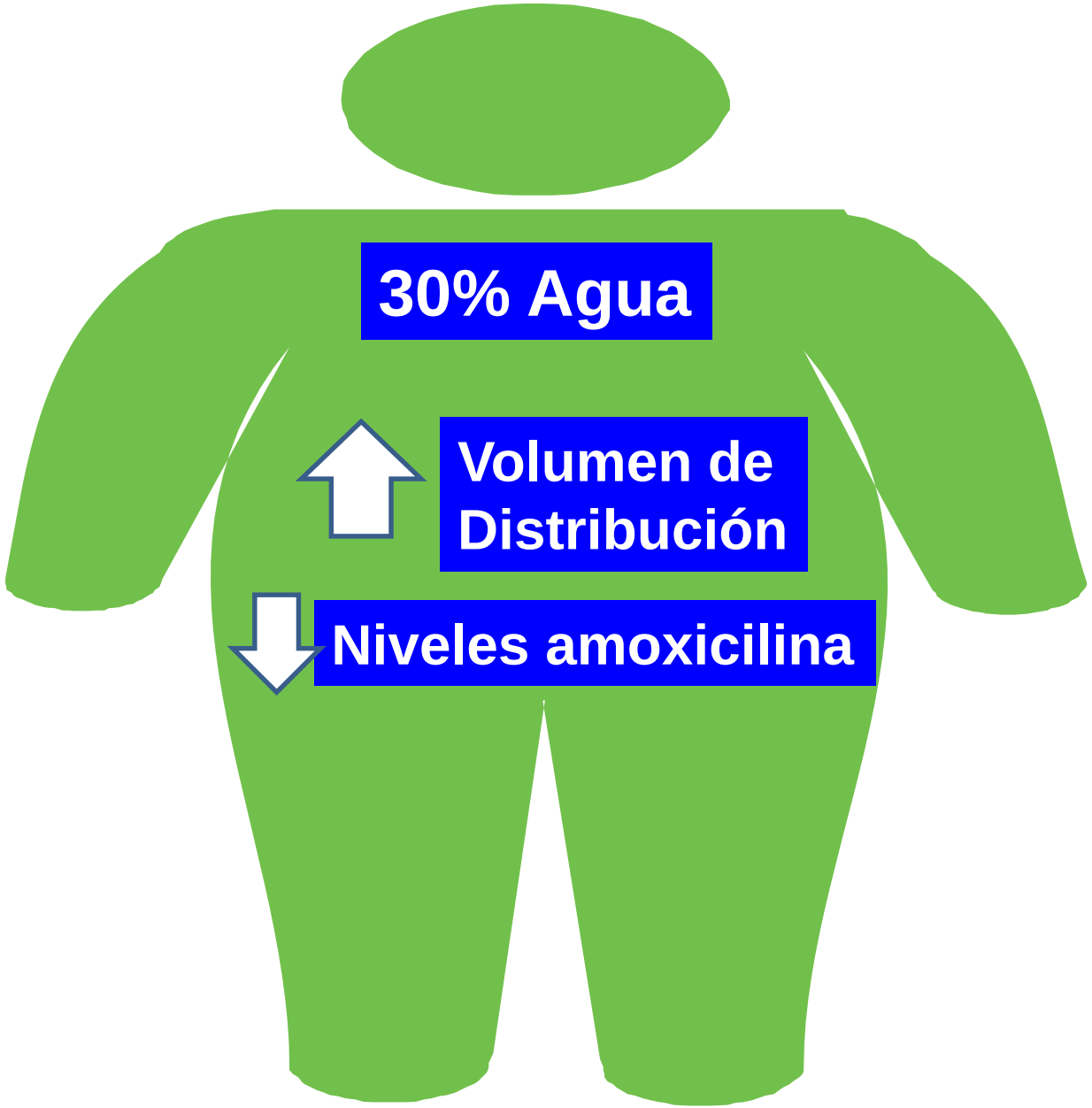
Helicobacter WILEY

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

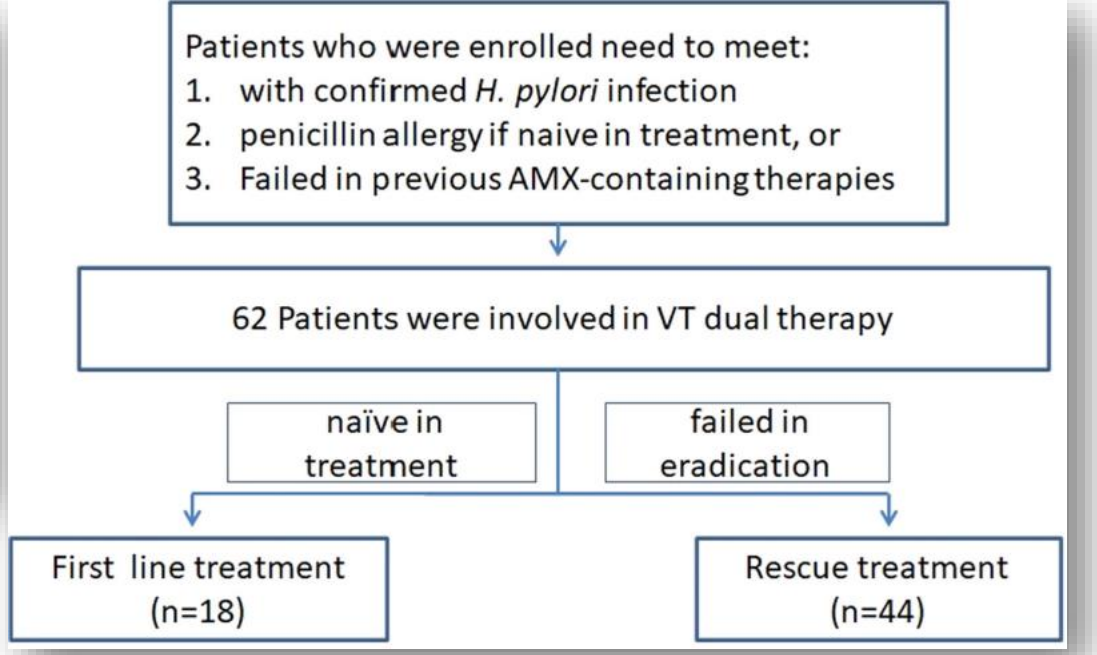


Eto H, et al. Helicobacter. 2021;26:e12788

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

Tratamiento *H.pylori*

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

Verificaciòn de curaciòn
> 4 semanas pos tratamiento

UBT C^{13} No radiactivo

UBT C^{14}

Antìgenos fecales

Endoscopia alta

Board Review Gastroenterology 202
Maastricht 2022

Mensajes para la casa

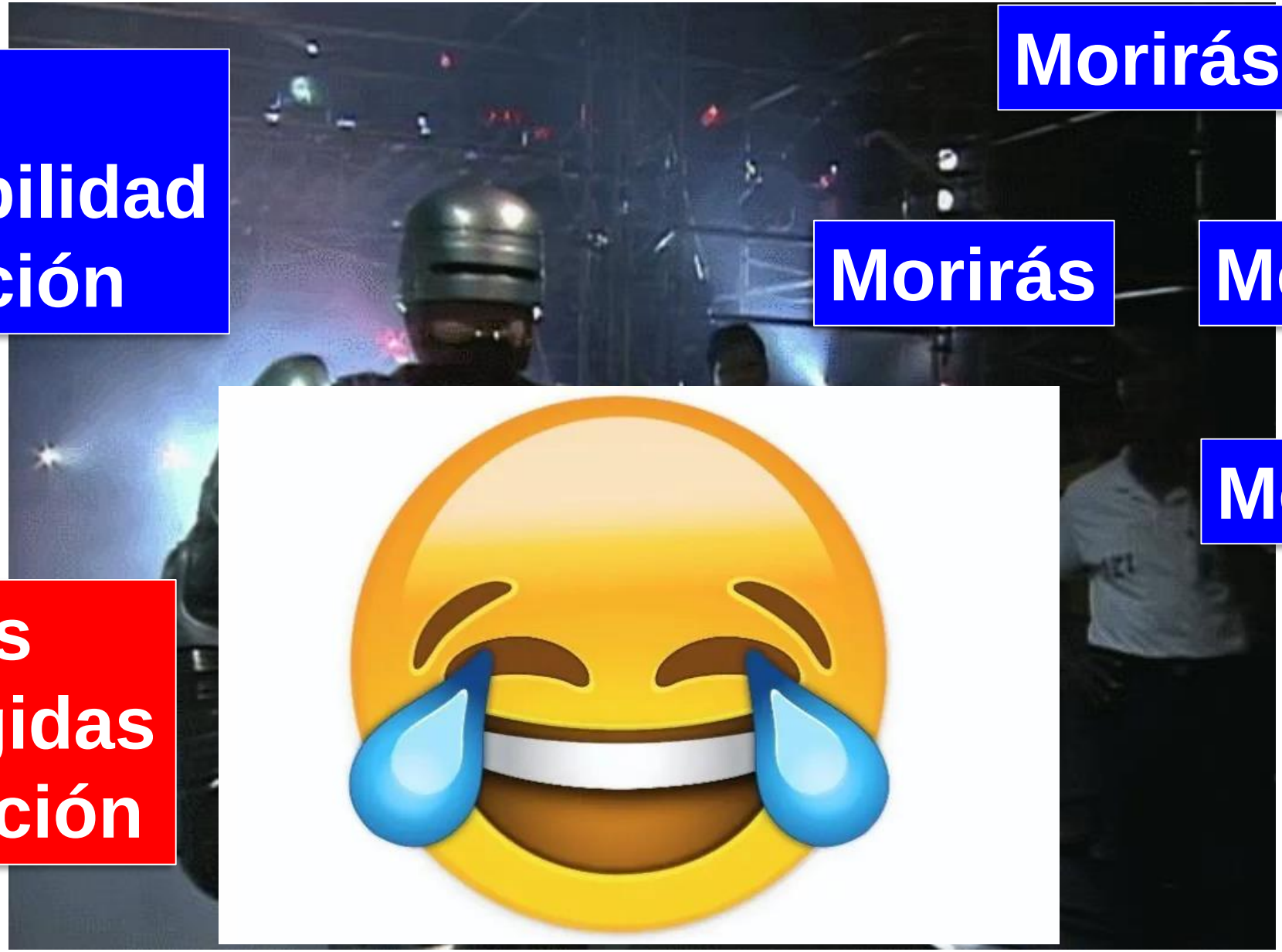
Conceptos básicos 2023

Tratar por 14 días,
Altas dosis de IBP
IBP mas tres antibióticos
IBP mas amoxicilina altas dosis/Tetraciclina
No repetir macrólidos o levofloxacina
Utilizar los esquemas con eficacia local

Eficacia ITT 90%, PP 95%

Todas las Guías de occidente

H.pylori, muy difícil de matar



Pruebas
Susceptibilidad
Optimización

Morirás

Morirás

Morirás

Morirás

Empíricas
Bien elegidas
Optimización

Muchas gracias