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WORKSHOP W3 TREATMENT OF HELICOBACTER INFECTION I

W3.7 | Pan--European Registry on *H. pylori* management (Hp--EuReg): Analysis of 4,388 second--line treatments

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Introduction: After a failed eradication attempt, *H. pylori* treatment's efficacy is compromised.

Aims: To evaluate the efficacy of second--line *H. pylori* treatments.

Methods: A systematic prospective registry of the clinical prac-tice of European gastroenterologists regarding *H. pylori* infection and treatment. *Variables included:* patient's demographics, previous eradication attempts, prescribed eradication treatment, adverse events, and outcomes (cure rates, compliance, follow up). *Analysis:* Cases with an empiric treatment after just one eradication attempt were evaluated separately from those with a tailored therapy.

Results: Overall, 4,388 second--line patients were included. In total, 4,019 were treated empirically: Mean efficacy was 77% (by ITT) and 83.5% (by PP). 7 and 10--days regimens did not reach optimal efficacy except for single--capsule bismuth quadruple therapy (>90% PP). 14--days regimens with double doses esomeprazole reported better re-sults (>90% PP) when quinolones were used in triple regimens and bismuth quadruple therapies. After non--bismuth quadruple failure, efficacy was higher when the triple therapy with moxifloxacin or the bismuth quadruple therapy with levofloxacin were used. Over 97% of patients were compliant. Adverse events were reported in 29% of the cases and tolerance was similar among therapies.

Conclusion: Second--line triple therapies generally provide low eradication rates except when prescribing moxifloxacin for 14 days. Bismuth--containing quadruple therapies seem to provide higher ef-ficacy, especially the combination of bismuth with a PPI, levofloxacin and amoxicillin or the single--capsule bismuth quadruple therapy.

Most frequent 2nd line treatments	N	% Use	N (ITT)	ITT (%)	(95% CI)	N (PP)	PP (%)	(95% CI)
Triple-A+L	1,449	36.1	1,349	77	(75-79)	1,271	81	(79-83)
Pylera	510	12.7	466	87	(84-90)	442	91	(88-94)
Quadruple-A+L+B	459	11.4	446	88	(85-91)	421	90	(87-93)
Triple-C+A	414	10.3	358	51	(46-56)	221	79	(74-84)
Quadruple-M+Tc+B	179	4.5	167	81	(75-87)	158	84	(78-90)
Quadruple-C+A+M	145	3.6	133	83.5	(77-90)	131	84	(78-90)
Triple-A+Mx	140	3.5	138	88	(83-93)	134	91	(86-96)
Triple-A+M	85	2.1	79	56	(45-67)	73	59	(48-70)
Total	3,966	98.7	3,689	77	(76-78)	3,346	83	(82-84)

ITT, intention to treat; PP, per--protocol; 95%CI, 95% confidence interval; PPI, proton pump inhibitor; C, clarithromycin; M, metronidazole; T, tinida-zole; A, amoxicillin; L, levofloxacin; B, bismuth salts; Tc, tetracycline; Mx, moxifloxacin; N, Total of patients receiving an empiric treatment.

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POSTER ROUND 1 .1: TREATMENT OF HELICOBACTER INFECTION

P1.01 | First-line *H. pylori* eradication therapy in Europe: Results from 21,487 cases of the European Registry on *H. pylori* Management (Hp--EuReg)

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Background: The best approach for *Helicobacter pylori* management remains unclear. Audit processes are essential to ensure that clinical practice is aligned with best standards of care.

Methods: International multicenter prospective non--interventional registry starting in 2013 aimed to evaluate the decisions and outcomes of *H. pylori* management by European gastroenterologists. All infected adult patients were systematically registered at AEG--REDCap e-CRF. *Variables included*: Patient's demographics, previous eradication attempts, prescribed treatment, adverse events, and outcomes. Intention--to--treat and per--protocol analyses were per-formed. Data monitoring was performed to ensure the quality of the data. **Results**: So far, 21,487 first--line prescriptions from 27 European countries have been evaluated. Average age was 49 years, 60% women, and 18% had peptic ulcer. Pre--treatment resistance rates were: 24% to clarithromycin, 34% metronidazole, and 14% both. Drug prescription and efficacy is shown in the table. Triple therapy with amoxicillin and clarithromycin was the most commonly pre-scribed(45%), achieving, overall, <80% eradication rate. Over 90% eradication was obtained only with 10--day bismuth quadruple ther-apies or 14--day concomitant treatment. Longer treatment duration, higher acid inhibition and compliance were associated with higher eradication rates in the multivariate analysis.

Conclusions: Triple therapies account for the majority of prescriptions, however, only quadruple therapies lasting at least ten days are able to achieve over 90% eradication rates.

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Treatment	N	% Use	ITT	mITT	PP
PPI + C+A	8,374	39%	68.4%	84.2%	84.7%
PPI + C+A+M	4,156	19%	86.1%	90.0%	90.5%
PPI + C+A+B	1,525	7.1%	78.6%	92.8%	93.1%
PPI + M+Tc+B s.c.	1,520	7.1%	82.9%	94.7%	95.3%
PPI + C+A+T seq	1,166	5.5%	76.9%	91.3%	91.9%
PPI + C+M	1,043	4.9%	70.0%	81.1%	81.5%
PPI + C+A+M seq	608	2.8%	74.8%	81.0%	83.2%
PPI + A+M	560	2.6%	65.8%	85.4%	85.5%
PPI + A+L	404	1.9%	76.6%	81.4%	81.8%
PPI + M+Tc+B	188	1.3%	77.6%	93.1%	93.7%
PPI + C+A+T	172	0.9%	83.6%	94.9%	96.1%

ITT --intention to treat, PP --per--protocol, 95%CI --95% confidence interval, PPI --proton pump inhibitor, Seq -- sequential, C --clarithromycin, M -- met-ronidazole, T -- tinidazole, A --amoxicillin, L --levofloxacin, B -- bismuth, Tc -- tetracycline, s.c. --single capsule.

A.G. McNicholl: D. Speakers Bureau/Honoraria (speakers bureau, symposia, and expert witness); Modest; Mayoly, Allergan, Takeda, MSD. F. Consultant/Advisory Board; Modest; Mayoly. O.P. Nyssen: None. D.S. Bordin: None. B. Tepes: None. A. Perez--Aisa: None. D. Vaira: None. M. Caldas: None. L. Bujanda: None. M. Castro-- Fernandez: None. F. Lerang: None. M. Leja: None. L. Rodrigo: None. T. Rokkas: None. L. Kupcinskas: None. J. Perez--Lasala: None. L.V. Jonaitis: None. O. Shvets: None. A. Gasbarrini: None. H. Simsek: None. A.T.R. Axon: None. G.M. Buzas: None. J.C. Machado: None. Y. Niv: None. L. Boyanova: None. A. Goldis: None. V. Lamy: None. M. Katicic: None. K. Przytulski: None. C. Beglinger: None. M. Venerito: None. P. Bytzer: None. L.G. Capelle: None. T. Milosavljevic: None. L.I. Veijola: None. J. Molina--Infante: None. L. Vologhzanina: None. G. Fadeenko: None. I. Ariño: None. G. Fiorini: None. M. Ramas: None. M.G. Donday: None. F. Megraud: None. C. O'Morain: None. J.P. Gisbert: Other; Modest; Dr. Gisbert has served as speaker, consultant and advisory member for or has received research funding from Casen Recordati, Mayoly, Allergan, Advia, Diasorin.

P1.02 | Efficacy of first-line regimens in Spain: Results from the European Registry on *H. pylori* management (Hp-EuReg)

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Introduction: Updated data concerning Spain is needed to design the best strategy to treat *Helicobacter pylori (H. pylori)* infection.

Aim: To analyse the efficacy of the most commonly prescribed first--line therapies in Spain.

Methods: Observational, prospective study embracing 48 Spanish hospitals, included in the Hp--EuReg project. Inclusion period extended from February 2013 to January 2018. A multivariate analysis was performed considering the efficacy and the type of proton pump inhibitor (PPI) dose, treatment duration, compliance, gender and penicillin allergy.

Results: 8,581 patients naïve to *H. pylori* treatment were included, bismuth quadruple concomitant therapy (Q--NBCT, 43%), triple therapy containing clarithromycin and amoxicillin (T--CA, 35%), bismuth quadruple therapy adding clarithromycin and amoxicillin (Q--BCA, 9%) and the three--in--one single capsule (Q--SINGLE, 8%). Patients allergic to penicillin mostly received a triple therapy containing clarithromycin and metronidazole (T--CM, 42%) and Q--SINGLE treatment (32%). All therapies included a PPI. The efficacy analyzed on a modified ITT (mITT) and PP basis is shown in Table 1. Compliance was the variable most closely associated with efficacy ($P < 0.05$).

Conclusions: In first--line, the best efficacy results were obtained with Q--NBCT and Q--BCA (both during 14 days), and with Q--SINGLE (10 days), this last treatment both in allergic and in non--allergic to penicillin patients.

		mITT efficacy		PP efficacy	
	Duration (days)	**N included**	**mITT (95% C.I.)**	**N included**	**PP (95% C.I.)**
No penicillin allergy					
Q--NBCTN = 3,504	10	2,130	86% (85-88%)	2,031	89% (87-90%)
	14	1,288	91% (89-92%)	1,237	92% (91-94%)
T--CAN = 2,898	10	1,965	82% (81-84%)	1,869	86% (84-87%)
	14	742	81% (77-83%)	675	87% (85-90%)
Q--BCAN = 722	14	697	91% (89-93%)	670	94% (92-96%)
Q--SINGLEN = 652	10	593	93% (91-95%)	574	95% (93-97%)
Q--NBSTN = 232	10	220	82% (76-87%)	191	84% (78-89%)
Penicillin allergy					
T--CMN = 113	10	79	61% (49-72%)	77	62% (51-73%)
Q--SINGLEN = 85	10	78	91% (82-96%)	74	93% (85-98%)
Q--BTMN = 56	10	41	85% (71-94%)	39	87% (73-96%)

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P1.03 | Pan-European Registry on *H. pylori* Management (Hp-EuReg): Experience with single capsule bismuth quadruple therapy in 2,326 patients

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Background: Bismuth--quadruple therapy with a PPI, bismuth salts, tetracycline and metronidazole has resurfaced in Europe thanks to a new single--capsule formulation (Pylera®).

Methods: Our aim was to evaluate the efficacy and safety of the single--capsule bismuth--quadruple therapy (Pylera®) in the European Registry on *Helicobacter pylori* management. Patients were systematically registered at an e--CRF by AEG--REDCap. *Variables included*: Patient's demographics, previous eradication attempts, prescribed treatment, adverse events, and outcomes. Intention--to--treat and per--protocol analyses were performed. Data monitoring was performed to ensure the quality of the data.

Results: So far, 30,394 patients have been included. Of these, 2,326 valid patients treated with single--capsule bismuth--quadruple therapy have been evaluated. 1,900 (81.7%) were prescribed following the technical--sheet (10 days, 3 capsules q.i.d.), the remaining where excluded. Average age was 52 years, 64% women, and 13% had peptic ulcer. Table summarizes results. The majority of cases (63%) were naïve. PPI type or dose did not influence eradication rate. 33% of cases suffered from adverse events (severe in 3%, and only 1% withdrew treatment due to adverse events). Only two serious adverse events were reported: hospitalization for diarrhea, and an allergic reaction treated with anti--histamine drugs, both solved without complications.

Conclusions: Treatment with single--capsule bismuth--quadruple therapy (Pylera®)achieves *H. pylori* eradication in approximately 90% of patients by intention--to--treat in clinical practice, both in first--and second--line, with a favorable safety profile.

	Frequency	Percent	mITT	PP
Naive (no previous treatment)	1,195	63%	92%	95%
2nd	412	22%	87%	90%
3rd	220	12%	84%	85%

mITT: Modified intention--to--treat; PP: per--protocol.

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P1.04 | Pan-European Registry on *H. pylori* Management (Hp-EuReg): First-line treatment use and efficacy trends in 2013--2018

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Background: The impact of consensus, prescription choices and efficacy trends on clinical practice over time has not been studied in depth.

Methods: International multicenter prospective non--interventional registry starting in 2013 aimed to evaluate the decisions and outcomes of *H. pylori* management by European gastroenterologists.

All infected adult patients were systematically registered at AEG--REDCap e-CRF. *Variables included*: Patient's demographics, previous eradication attempts, prescribed treatment, adverse events, and outcomes. Intention--to--treat analyses were performed. Data monitoring was performed to ensure the quality of the data.

Results: So far 25,256 patients from 27 European countries have been included, 19,754 (77%) were naïve empirical prescriptions. Although, overall, the most common prescribed treatments in the 2013--18 period were triple therapies, a shift in antibiotic regimens was identified. Triple therapies decreased from over 50% of prescription in 2013/14 to less than 25% in 2017/18 while Pylera® has increased from 0--1% (2014/2015) to 25% (2018). Full description of most common treatments is shown in Table 1. Regarding the efficacy of each treatment no trend has been identified (data now shown), however there has been a 5% overall improve in first--line efficacy (Table 1).

Conclusions: European gastroenterological practice is constantly adapting to the newest published evidence and recommendations, and although this shift is delayed and slow, it improves clinical practice outcomes.

	Year of visit					
	2013	**2014**	**2015**	**2016**	**2017**	**2018**
Triple C+M	116	271	317	262	41	8
Triple C+A	1,541	2,192	1,478	1,127	1,002	196
Triple A+M	164	181	75	31	19	1
Triple A+L	76	104	117	75	11	1
Sequential C+A+T	231	263	236	61	302	69
Sequential C+A+M	354	156	54	21	6	1
Quadruple M+Tc+B	70	83	12	2	6	1
Quadruple C+A+T	6	31	91	34	8	7
Quadruple C+A+M	753	910	943	786	663	65
Quadruple C+A+B	42	83	195	766	408	148
Pylera	1	1	21	502	788	183
Other	136	189	239	200	174	47
mITT	85.8%	86.3%	86.2%	88.3%	89.7%	90.4%

A.G. McNicholl: D. Speakers Bureau/Honoraria (speakers bureau, symposia, and expert witness); Modest; Mayoly, Allergan, Takeda, MSD. F. Consultant/Advisory Board; Modest; Mayoly. O.P. Nyssen: None. D.S. Bordin: None. B. Tepes: None. A. Perez--Aisa: None. D. Vaira: None. M. Caldas: None. L. Bujanda: None. F. Lerang: None. M. Leja: None. T. Rokkas: None. L. Kupcinskas: None. L.V. Jonaitis: None. O. Shvets: None. A. Gasbarrini: None. G.M. Buzas: None. J.C. Machado: None. Y. Niv: None. L. Boyanova: None. V. Lamy: None. M. Venerito: None. M. Katicic: None. L.G. Capelle: None. T. Milosavljevic: None. G. Fiorini: None. M. Ramas: None. M.G.

Donday: None. F. Megraud: None. C. O'Morain: None. J.P. Gisbert: Other; Modest; Dr. Gisbert has served as speaker, consultant and advisory member for or has received research funding from Casen Recordati, Mayoly, Allergan, Advia, Diasorin.

P1.05 | Efficacy of second-line regimens in SPain: Results from the EuroPean Registry on *H. Pylori* management (HP--EuReg)

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Introduction: The best second--line regimen against *Helicobacter py-lori (H. pylori)* must be established locally to reach high eradication rates.

Aim: To evaluate the efficacy of the most frequently prescribed second--line treatments in Spain.

Methods: Observational and prospective study carried out in 48 Spanish hospitals, included in the 'Hp--EuReg' project. Patients were registered from February 2013 to January 2018. A multivariate anal-ysis was performed considering the efficacy and the type of proton pump inhibitor (PPI) dose used, duration, compliance, gender and penicillin allergy.

Results: 1,869 patients received a second--line therapy: 67% were women and 6% had penicillin allergy. 93% had previously received a clarithromycin--containing regimen. Non--allergic to penicillin patients mostly received: triple therapy comprising levofloxacin and amoxicil-lin (T--LA, 45%), quadruple therapy adding bismuth to the previous therapy (Q--BLA, 24%), three--in--one single capsule (Q--SINGLE, 14%) and triple therapy using moxifloxacin and amoxicillin (T--MXA, 5%). All therapies comprised a PPI. Efficacy was analyzed on a modified ITT (mITT) and PP basis. Results are shown in Table 1. Compliance was the variable most closely associated with efficacy ($P < 0.05$).

Conclusions: In second--line, around 90% of efficacy was obtained with Q--SINGLE (10 days) and Q--BLA (14 days) in non--allergic to peni-cillin patients.

TABLE 1. Efficacy with the treatments more frequently prescribed in second line

		mITT efficacy		PP efficacy	
	Duration (days)	**N included**	**mITT (95% C.I.)**	**N included**	**PP (95% C.I.)**
No penicillin allergy					
T--LAN = 792	10	586	71% (67-75%)	564	73% (69-76%)
	14	190	86% (81-91%)	179	92% (87-95%)
Q--BLAN = 413	14	400	88% (84-91%)	375	91% (88-94%)
Q--SINGLEN = 245	10	223	89% (84-93%)	212	93% (89-96%)
T--MXAN = 92	14	69	86% (75-93%)	66	89% (79-96%)
Penicillin allergy					
T--CLN = 30	10	24	71% (49-87%)	21	76% (53-92%)
Q--BTMN = 30	10	18	72% (47-90%)	18	72% (47-90%)
Q--SINGLEN = 85	10	23	78% (56-93%)	21	86% (64-97%)

T--CL: triple therapy (PPI, clarithromycin, levofloxacin). Q--BTM: quadruple therapy (PPI, bismuth, tetracycline and metronidazole).

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P1.10 | Single-capsule bismuth--quadruple therapy: 3 or 4 times daily? Spanish Data from the European Registry on *H. pylori* Management (Hp-EuReg)

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Background: Single--capsule bismuth--quadruple therapy with a PPI, bismuth, tetracycline and metronidazole (Pylera®) regimen is dosed as 3 capsules four times daily (3/qid). This scheme may not be ad-equate for late--dinner Spanish habit. Therefore, some physicians prescribe the treatment as a 4 capsules three times daily (4/tid). Our aim was to evaluate the efficacy and safety of tPylera® 4/tid in the European Registry on *H. pylori* management in Spain.

Methods: Patients were registered at an e--CRF by AEG--REDCap. Variables included: Patient's demographics, previous eradication attempts, prescribed treatment, adverse events, and outcomes. Intention--to--treat and per--protocol analyses were performed. Data monitoring was performed to ensure the quality of the data. Descriptive statistics was performed using SPSS 21.

Results: Of the 2,326 valid Spanish patients treated with single--capsule bismuth--quadruple therapy, 1,140 (74%) were prescribed 3/ qid, and 403 4/tid. Average age was 48 years, 63% were women, and 11% had peptic ulcer. The majority of cases (72%) were naïve. PPI type or dose did not influence eradication rates. Both treatments provided equivalent compliance, adverse events and eradication rates (table). Only one case suffered a serious adverse event (C. dif-ficile infection) in the 3/qid group.

		Adverse	Intention-to-treat				Per-protocol			
Pylera	Compliance (%)	Events (%)	Overall (%)	Naive (%)	Second (%)	Third (%)	Overall (%)	Naive (%)	Second (%)	Third (%)
4/tid	97	22	85	95	92	86	93	96	94	92
3/qid	98	24	86	93	83	84	90	95	87	86

Conclusions: Prescription of single--capsule bismuth--quadruple therapy as a 4 capsules three times daily seems to achieves at least the same compliance, tolerance and efficacy than the 3 capsules four times daily schedule proposed in the technical sheet.

P1.20 | Pan--European registry on *Helicobacter pylori* management: results from Budapest, Hungary

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Background: The European Registry on *H. pylori* Management was set up by *Gisbert* and *McNicholl* et al in 2013 to monitor eradication practices in European countries for 10 years.

Aim: To assess the efficacy of different eradication regimens in a single outpatient clinic of gastroenterology.

Methods: Between 2013 and 2019, 247 patients were registered in a prospective non--interventional study. The infection was diagnosed either by endoscopy, histology, RUT or a ^{13}C-UBT. As first-line treatment the patients received either a 7 days triple regimen (any of PPI + amoxicillin + clarithromycin or tinidazole), 10--day modified sequential treatment (PPI + amoxicillin for 5 days + followed by ti-nidazole and levofloxacin for 5 days), 10--day quadruple treatment (PPI + amoxicillin + tetracycline or doxycycline + metronidazole or tinidazole) or bismuth--based quadruple treatment (PPI + amoxi-cillin + tetracycline or doxycycline + metronidazole). Bismuth/ non--bismuth--based quadruple or alternative regimens were given as second or third--line treatment. Controls were performed by an ^{13}C-UBT.

Results: The eradication rates of different regimens are given in the Table.

Conclusion: Under real life settings in our district, the first--line concomitant regimen was significantly superior to triple therapies, but not significantly better than the sequential and bismuth--based treatment. Second--and third--line regimens achieved suboptimal results.

G.M. Buzás: None.

Regimen	No. of cases	Duration (days)	ITT rates (%, 95% CI)	PP rates (%, 95% CI)	*P* vs triple therapy
Triple	34	7	70.5 (54.4-86.7)	82.7 (68.1-97.4	--
Sequential	60	10	76.7 (65.6-87.6)	85.2 (75.4-94.9)	0.05
Concomitant	70	10	84.3 (75.5-93.0)	95.1 (89.6-100)	0.03
Bismuth quadruple	36	10	80.5 (66.9-94.2	82.6 (69.7-95.9)	0.08
Second-line	32	10-14	65.2 (48.2-83.0)	70.0 (52.6-87.4)	--
Third-line	11	10-14	54.5 (19.4-86.6)	66.7 (28.-105.1)	--

Helicobacter —WILEY—

POSTER ROUND 3 .1 GUT MICROBIOTA IN HEALTH AND DISEASE

P3.25 | Study of the impact of *Helicobacter pylori* eradication treatments on the intestinal microbiota

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AGM and SPN both contributed as first author. LE and JPG both as senior

Background: Helicobacter pylori eradication requires a combination of antibiotics. Among the adverse events observed, intestinal disorders are frequent, especially diarrhoea, suggesting a negative effect on the intestinal microbiota.

Methods and Aims: Pilot study to evaluate and compare the impact of H. pylori eradication regimens on intestinal microbiota. Two 14--day quadruple treatments were evaluated: proton--pump--inhibitor and nitroimidazole plus either bismuth--tetracycline (Treatment A); or plus amoxicillin--clarithromycin (Treatment B). Stool samples were collected before, at 2 and 6 months after finishing treatment. Gut microbiome was analyzed from the stool samples by sequencing of the 16S rRNA gene and sample--specific barcode sequences. In each visit patients brought a diary registering drug intake, symptomatol-ogy and other relevant data.

Results: Of 50 patients were initially included and 38 completed the protocol (136 samples). 58% were women, average age was 42 years. Eradication rates were similar between treatments (A 90%, B 89%). Both treatment regimens induced a significant decrease in alpha diversity at the end of treatment, which was partially recovered in follow--up samples. Beta diversity was also similarly affected in both treatments and partially recovered at follow--up. Longitudinal pairwise Bray--Curtis distances were calculated. Large individual variation was observed ranging 0.23--0.90 during treatment and 0.18--0.77 at follow--up, in treatment A; and 0.31--0.89 and 0.27--0.92 in treatment B.

Conclusion: *H. pylori* eradication treatments significantly re-duce microbiome diversity, although it is partially recovered soon (<6 months) after treatment. No differences were found between bismuth and non--bismuth quadruple therapies, therefore other aspects should guide prescription.

A.G. McNicholl: D. Speakers Bureau/Honoraria (speakers bureau, symposia, and expert witness); Modest; Mayoly, Allergan, Takeda, MESD. F. Consultant/Advisory Board; Modest; Mayoly. S. Prast--Nielsen: None. L.P. Andersen: None. J.C. Machado: None. M. Leja: None. T. Alarcon: None. A. Gasbarrini: None. F. Megraud: None. C. O'Morain: None. L. Engstrand: None. J.P. Gisbert: Other; Modest; Dr. Gisbert has served as speaker, consultant and advisory member for or has received research funding from Casen Recordati, Mayoly, Allergan, Advia, Diasorin.

Helicobacter —WILEY—

POSTER ROUND 4.1 DIAGNOSIS OF HELICOBACTER INFECTION

P4.01 | "Test and Treat" strategy with urea breath test: a cost--effective approach for the management of *Helicobacter pylori* infection in Spain

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Background: Data from clinical trials comparing strategies used for the management of dyspepsia are limited. Cost--effectiveness studies might help to identify optimal strategies.

Aim: To assess cost--effectiveness of the *H. pylori* "Test and Treat" strategy including Urea Breath Test (UBT) vs symptomatic treatment and/or endoscopy, in patients with dyspepsia.

Methods: Models compared three strategies: "Test and Treat" including UBT, "Endoscopy and Treat" and "Symptomatic Treatment". Advanced simulations were performed over 4 weeks--time horizon for the endpoint "Probability of dyspepsia symptoms relief" and over 10 years for the endpoints "Probability of gastric cancer avoided" and "Probability of peptic ulcer avoided". Models were developed according to the Spanish routine medical practices and costs.

Results: For the "Probability of dyspepsia symptoms relief" end-point, "Test and Treat" was the most cost--effective (883€/success) vs "Endoscopy and Treat" and "Symptomatic Treatment" (respec-tively 1,628€ and 990€/success). For the "Probability of gastric can-cer avoided" endpoint, "Test and Treat" was the most cost--effective strategy (524€/gastric cancer avoided) vs "Endoscopy and Treat" and "Symptomatic Treatment" (respectively 716€ and 696€/gastric cancer avoided). For the "Probability of peptic ulcer avoided" endpoint, "Test and Treat" was also the most cost--effective strategy (421€/peptic ulcer avoided) vs "Endoscopy and Treat" and "Symptomatic Treatment" (respectively 728€ and 632€/peptic ulcer avoided).

Conclusion: *H. pylori* "Test and Treat" strategy including UBT is the most cost--effective medical approach for the management of dyspepsia. This study should contribute to increase awareness about the usefulness of "Test and Treat" strategy and concerning its beneficial impact for patients with *H. pylori*-related diseases.

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