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SAT0049 21ST CENTURY STATE OF RHEUMATOID ARTHRITIS MANAGEMENT IN THE UK

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Background: The rheumatoid arthritis (RA) Treat to Target (T2T) recommendations[1] defined in 2010 aimed to support clinicians to achieve optimal therapeutic outcomes for their patients.
Objectives: 38 hospitals prospectively audited management of newly diagnosed RA patients to determine compliance with the T2T recommendations and therapeutic outcomes achieved.
Methods: From April 2012 to September 2016 and upon diagnosis of RA, data on disease history, management and clinical outcomes were collected prospectively in a web based tool. Follow up to date provides data for up to 24 months from diagnosis (baseline).
Results: 1571 patients were recruited in 38 centres, with 12 months' follow up for 713 patients and of these 269 also had 24 months' follow up. 1021 (65%) patients were female and 1360 (87%) had a treatment target documented at baseline (1235 [79%] disease activity score 28 (DAS28) remission and 125 [8%] low disease activity state (LDAS)). DAS28 remission is defined as DAS28 <2.6, LDAS is defined as DAS28 ≥2.6<3.2. Median baseline DAS28 scores were 4.9 and 5.3 for patients having a DAS28 remission and LDAS target, respectively. The table shows DAS28 scores at baseline, 12 and 24 months, and disease management received for the subset of patients with available DAS28 scores at the relevant time points, stratified by those who did/did not achieve their remission target and those with/without sustained remission at 24 months. Of the 108 patients eligible to receive biologic therapy, according to NICE guidance, 39 (36%) received a biologic within their first 24 months of treatment.

	Patients with 12 months follow up (n=713)		Patients with 24 months follow up (n=269)	
	In remission at 12 months [n=276]	Not in remission at 12 months [n=239]	Sustained remission at 24 months [n=32]	Remission not sustained at 24 months [n=96]
% patients compliant with TTT standards				
N (%) with baseline target set (remission or LDAS)	244 (88%)	183 (77%)	29 (91%)	76 (79%)
N (%) with >4 visits in the first year of management	207 (75%)	175 (73%)	31 (97%)	81 (84%)
N (%) with >4 DAS scores in the first year of management	180 (65%)	155 (65%)	24 (75%)	48 (50%)
N (%) with dual therapy within 6 months of diagnosis	148 (54%)	154 (64%)	17 (53%)	53 (55%)
Disease scores				
median baseline DAS28 (n with available score)	4.6 [n=226]	5.1 [n=193]	4.5 [n=26]	5.3 [n=67]
median 12 month DAS28 (n with available score)	1.9 [n=276]	3.9 [n=239]	1.9 [n=23]	2.9 [n=63]
median 24 month DAS28 (n with available score)	2.1 [n=43]	3.4 [n=43]	1.6 [n=32]	3.0 [n=96]

Conclusions: The results suggest that more patients with a target set at baseline are in remission at 12 months and at 24 months than those without a target set. Number of visits, number of DAS28 scores and starting dual therapy within 6 months do not appear to affect the proportion of patients in remission at 12 months, but active management in the first 12 months (>4 visits, >4 DAS28 scores) does appear to be associated with more patients in remission at 24 months. Thus we conclude that treating RA early and aggressively, in line with the T2T guidelines, leads to sustained clinical improvement.
References:
[1] Smolen et al. Treating rheumatoid arthritis to target: recommendations of an international task force. Ann Rheum Dis 2010;69:631–637.
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SAT0050 EARLY RESPONSE TO CERTOLIZUMAB PEGOL IN RHEUMATOID ARTHRITIS PREDICTS OUTCOME: DATA FROM A PROSPECTIVE OBSERVATIONAL STUDY

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Background: Treat-to-target strategies for rheumatoid arthritis (RA) require reliable clinical markers of treatment response in order to adapt therapy. Markers of early treatment failure can be used to ensure that patients (pts) are not unnecessarily exposed to ineffective therapy. Data from interventional clinical trials suggest that early clinical measures of disease activity (such as CDAI, DAS28 or HAQ-DI) after 12 weeks (wks) of treatment can reliably predict treatment failure at 1 year (yr).[1–3] However, it is unknown how such indicators perform in real-world settings.
Objectives: To evaluate the performance of clinical markers of early treatment failure (Wk12) as predictors of treatment failure at 1yr in everyday clinical practice.
Methods: Data from a 1yr interim analysis of the ECLAIR study were used: a longitudinal, prospective, observational, multicentre study of pts with RA starting treatment with certolizumab pegol (CZP) in France. Pts were evaluated at study entry and thereafter at 3-monthly routine consultations. Disease activity was assessed at each visit using CDAI, DAS28 and HAQ-DI. At Wk12, pts with missing data or no longer taking CZP were excluded from the analyses. Linear interpolation, LOCF or NRI were used to impute missing data at 1yr, including data from pts who left the study early. Different definitions for treatment non-response were applied based on CDAI or ΔDAS28 and ΔHAQ-DI relative to pre-treatment values. Non-response at Wk12 was defined as CDAI>10, ΔDAS28<1.2 or ΔHAQ-DI<0.22. Then, failure at 1yr was defined as CDAI>22, DAS28>3.2 and HAQ-DI>0.5. Positive predictive values (PPV; proportion of treatment failures at 1yr in Wk12 non-responders) were used to evaluate the predictive performance of each tool.
Results: Overall, 792 pts were enrolled and data from 730 pts analysed. Performance of CDAI at predicting treatment failure at 1yr was assessed in 532 pts (198 data values missing at Wk12). Response and failure rates at Wk12 and 1yr are presented (see Table). The PPV for CDAI was 88.8%, indicating that almost 9/10 pts identified as non-responders at Wk12 fail to respond at 1yr. Specificity was also high (96.0%), indicating that <5% of pts who achieved CDAI response at 1yr were non-responders at Wk12. Similar analyses performed for DAS28 and HAQ-DI produced PPVs of 69.0% and 75.4%, respectively.

Table: Response and failure rates of CZP-treated patients at Week 12 and 1 year

	CDAI at 1 year		
CDAI at Week 12	**>22 (Failure)**	**≤22 (Response)**	**Total**
>10 (Non-response)	79	10	89
≤10 (Response)	205	238	443
Total	284	248	532
	Sensitivity=27.8%, Specificity=96.0%, PPV=88.8%, NPV=53.7%		
	DAS28 at 1 year		
ΔDAS28 at Week 12	**>3.2 (Failure)**	**≤3.2 (Response)**	**Total**
<1.2 (Non-response)	136	61	197
≥1.2 (Response)	102	135	237
Total	238	196	434
	Sensitivity=57.1%, Specificity=68.9%, PPV=69.0%, NPV=57.0%		
	HAQ-DI at 1 year		
ΔHAQ-DI at Week 12	**>0.5 (Failure)**	**≤0.5 (Response)**	**Total**
<0.22 (Non-response)	175	57	232
≥0.22 (Response)	154	110	264
Total	329	167	496
	Sensitivity=53.2%, Specificity=65.9%, PPV=75.4%, NPV=41.7%		

CDAI: Clinical Disease Activity Index; DAS28: Disease Activity Score; HAQ-DI: Health Assessment Questionnaire-Disability Index; NPV: Negative predictive value; PPV: Positive predictive value.

Conclusions: The PPV describing the performance of early CDAI measure as a