at Weeks 52 (5.8 vs 2.9; p<0.001) and 104 (5.8 vs 3.1; p<0.001). ASDAS responders versus nonresponders also had greater improvements in productivity at Weeks 52 (5.4 vs 2.4; p<0.001) and 104 (5.8 vs 2.6; p<0.001). At Week 52, 37.5% of patients who achieved inactive disease and 73.3% of patients who achieved major improvement regained employability. At Week 104, 38.9% of patients who achieved inactive disease and 72.2% of patients who achieved major improvement regained employability.

Patients who were treated with golimumab versus placebo had significantly improved mean change in PCS (8.8 vs 3.0; p≤0.001) and MCS (3.7 vs –0.4; p≤0.001) at Week 14, productivity at Week 16 (2.8 vs 0.4, p≤0.001), and mean change in PCS (9.4 vs 2.8; p≤0.001) and MCS (4.0 vs 0.7; p<0.05) and productivity (2.8 vs 0.4; p≤0.001) at Week 24.

Achievement of ASDAS major improvement or inactive disease in patients with AS after treatment with golimumab is associated with improved HRQoL and productivity.

Clinical and Radiological Outcomes of Four DAS ≤2.4 Targeted Treatment Strategies: Eight-Year Results From the BeSt Study

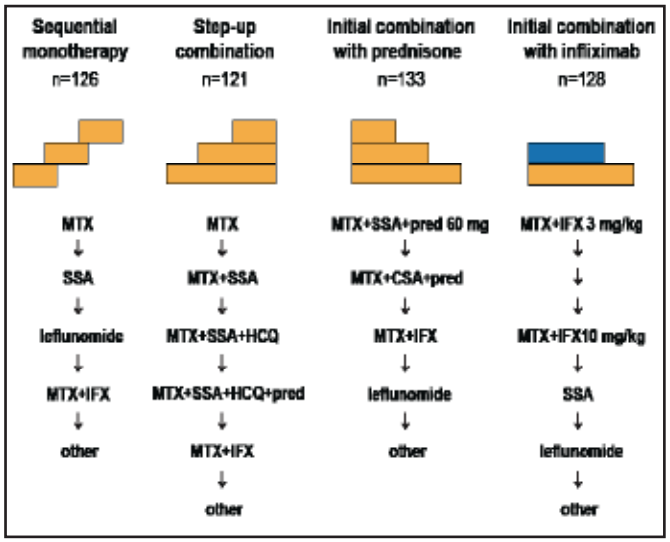
Written by Maria Vinall

Treating to target is the mainstay of EULAR recommendations for the management of patients with rheumatoid arthritis (RA), but is it associated with meaningful clinical outcomes? Eight-year results from the Clinical and Radiographic Outcomes of Four Different Treatment Strategies in Patients with Early Rheumatoid Arthritis study [BeST] suggest that the answer is yes. Marianne van den Broek, MD, Leiden University Medical Center, Leiden, The Netherlands, reported that after 8 years of targeted treatment, radiological damage was still very low, and functional ability had been maintained in all groups. Remission percentages were stable at about 52%, and drug-free remission was achieved in 15% to 19% of subjects.

The objectives of the BeSt trial were to compare clinical and radiological outcomes after 8 years of targeted treatment with 4 treatment strategies in patients with recent onset RA. The study comprised 508 patients who had a mean age of 54 years; were mostly women; and had a mean DAS44 of 4.4, mean Health Assessment Questionnaire (HAQ) score of 1.4, and median Sharp-van der Heijde score (SHS) of 4. About two-thirds of the subjects were rheumatoid factor-positive; 62% were anticitrullinated protein antibody-positive. Participants were randomized to 1 of 4 treatment strategies: 1) sequential monotherapy, 2) step-up combination therapy, 3) initial combination with prednisone, and 4) initial combination with infliximab (Figure 1). The treatment target was DAS ≤2.4. Treatment was adjusted every 3 months, based on individual DAS using the following algorithm:

- DAS >2.4: proceed to the next step in the treatment
- DAS ≤2.4 for at least 6 months: taper to maintenance dose
- DAS <1.6 for at least 6 months: stop antirheumatic treatment

Figure 1. Treatment Strategies.



MTX=methotrexate; IFX=infliximab; HCQ=hydroxychloroquine; CSA=cyclosporine; SSA=sulfasalazine. Reproduced with permission from M. van den Broek, MD.

Functional ability, measured with the HAQ, was analyzed with a linear mixed model, with time, treatment, and time*treatment as independent variables. Radiographs of baseline and Years 1 through 8 were scored with the SHS, blinded for the patient's identity and in random order, to assess radiological damage progression.

After 8 years, 347 (68.3%) patients were still in follow-up. A DAS ≤2.4 was achieved in 79% of these subjects, and 52% were in remission (DAS <1.6). The differences between the treatment groups were not significant (Table 1). Among those who achieved remission, 18%, 19%, 17%, and 15% of the patients in Groups 1 through 4, respectively, were in drug-free remission, with a median (mean) duration of 45 (39) months. Six patients were lost to follow-up, and 12 patients achieved drug-free remission in Year 8, while 8

patients with prolonged drug-free remission dropped out of the study.

Table 1. Eight-Year Results.

	Group 1 (n=126)	Group 2 (n=121)	Group 3 (n=133)	Group 4 (n=128)	p value
DAS ≤2.4, (%)†	79	76	84	76	0.5
DAS <1.6, (%)†	49	56	57	47	0.5
DAS <1.6 drug free, (%)†	18	19	17	15	0.9
Still on initial treatment step, (%)†	29	22	45	66	<0.001
Mean HAQ over 8 years‡	0.69	0.71	0.63	0.57	<0.05*
IFX current use, (%)†	21	10	13	24	0.06
Lost to follow-up, n (%)‡	41 (33)	43 (36)	47 (35)	30 (23)	0.1
Missing data, no.	8	12	9	4	
SHS progression, median (mean)† year 0-8	3.0 (14.6)	4.3 (13.9)	2.0 (8.5)	2.0 (8.3)	0.6

DAS=Disease Activity Score; HAQ=Health Assessment Questionnaire; IFX=infliximab; SHS=Sharp-van der Heijde Score; †Completers analysis, ‡intention-to-treat. *LMM: Group 2 vs 4, p<0.05; Group 1 vs 4, p=0.055; all other, p>0.05.

After initial differences in Years 1 and 2 between the 4 groups, annual radiological damage progression rates were low and similar between all groups, reflecting the efficacy of DAS-steered therapy. Median (mean) total damage progression after 8 years was 3 (11) points SHS (nonsignificant between groups). Patients who were in sustained drug-free remission had a mean SHS progression of 0.1 [median (IQR) 0 (0–0.03)] per person-year drug-free.

The initial improvement of function, which occurred earlier in Groups 3 and 4 than in Groups 1 and 2, was maintained without deterioration over 8 years in all groups. No differences were found for functional ability over time, with the exception of better functional ability in Group 4 compared with Group 2 (mean HAQ 0.57 and 0.71, respectively). Toxicity was comparable between the groups (Table 2).

Table 2. Toxicity Over Eight Years.

	Sequential monotherapy n=126	Step-up comb n=121	Initial comb + PRED n=133	Initial comb + IFX n=128	p value
SAEs total number	99	84	104	102	0.5
Patients with ≥1 SAE (%)	55	46	53	59	0.6
Patients with serious infections (%)	21 (17)	10 (8)	11 (8)	14 (11)	0.1
Patients with malignancies (%)	10 (8)	4 (3)	12 (9)	10 (8)	0.3

PRED=prednisone; IFX=infliximab; SAE=serious adverse events.

Inflammation and Fatty Degeneration in New Bone Formation in Patients With AS Treated With Anti-TNF Agents

Written by Toni Rizzo

When the inflammation of ankylosing spondylitis (AS) subsides, it may be replaced by repair tissue and fatty lesions, a process that leads to osteoproliferation and development of syndesmophytes. Results from clinical trials suggest that new bone formation is not inhibited or enhanced by anti-tumor necrosis factor (TNF) therapy. Xenofon Baraliakos, MD, Rheumazentrum Ruhrgebiet Herne, Herne, Germany, presented results from the European Ankylosing Spondylitis Infliximab Cohort [EASIC] study, an open-label extension of the Ankylosing Spondylitis Study for the Evaluation of Recombinant Infliximab Therapy [ASSERT]. The objective of the EASIC study was to directly compare the effect of inflammation and fatty degeneration on the development of syndesmophytes in patients with AS after 5 years of anti-TNF therapy.

The aim of the ASSERT Study was to evaluate the effect of infliximab on the progression of structural damage over 2 years in patients with AS. A total of 279 patients participated. After a mean of 1.3±0.9 years, 103 patients from ASSERT were enrolled in the EASIC substudy. Complete magnetic resonance imaging (MRI) data at baseline and 2 years and x-ray data at baseline, 2 years, and 5 years were available for 73 EASIC patients. Assessments were blinded with respect to the time points of MRI and x-ray studies. Only the anterior edges of the cervical and lumbar spine were analyzed. Baseline lesions were compared with radiographic progression at 2 and 5 years after adjustment for within-patient variation.

At baseline, the mean (± standard deviation [SD]) age of patients was 40.5±10.5 years; 86.3% of patients were men, and the mean (±SD) disease duration was 10±8.4 years. Patients had mean (±SD) Bath Ankylosing Spondylitis (BAS) Disease Activity Index scores of 6.5±1.4, BAS Functional Index scores of 5.9±1.6, BAS Metrology Index scores of 4.1±1.7, and C-reactive protein (CRP) levels of 2.9±2.3 mg/dL, and 83.6% was human leukocyte antigen B27-positive.

At 2 years, radiographic progression had occurred in 0.7% (n=10) of patients with baseline inflammation and 0.9% (n=13) of patients with baseline fatty degeneration. At 5 years, radiographic progression was present in 1.0%