AB1229

ASSESSMENT OF ENTHESITIS BY ULTRASONOGRAPHY IN PATIENTS WITH SERONEGATIVE RHEUMATOID ARTHRITIS

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Background: In patients with seronegative rheumatoid arthritis (RA) there is a difficulty to make the differential diagnosis with the spondyloarthropathies.

Objectives: To assess the presence of enthesitis in patients with seronegative RA in comparison with the healthy controls (HC), patients with seropositive RA and ankylosing spondylitis (AS).

Methods: In this cross-sectional study, seronegative and seropositive RA patients, who fulfilled the 2010 ACR/EULAR criteria, patients with AS and HC have been assessed by grey scale and power doppler ultrasonography for the presence of enthesopathy at the achilles tendon, plantar fascia, proximal patella, distal patella, quadriceps, tibialis anterior, triceps, common flexor and extensor tendons. Clinical assessment of the patient groups included demographic findings, health assessment questionnaire and DAS28.

Results: In our study, we recruited age and sex matched 27 seronegative RA, 19 healthy controls, 24 seropositive RA and 23 ankylosing spondylitis patients. We evaluated and analysed both right and left sides of the entheses regions separately which have been indicated in the methods section. The mean DAS28, mean ESR and mean CRP of the patients with seronegative RA were 3.6±1.28, 32.2±21.2 and 12.37±27.77 respectively (table 1).

Median of Madrid sonographic enthesitis index (MASEI) was 5 in patients with seronegative RA. 4 patients have severe scores (MASEI score ≥20). There were significant differences between seronegative RA and healthy controls (MASEI score:3), (p=0.014) but no differences has been observed between seronegative RA with seropositive RA (MASEI score:6) and ankylosing spondylitis (MASEI score:7) in MASEI scores.

In comparison, hypoechogenicity of quadriceps tendon (16 (29.6%) vs 6 (12.5%), p=0.037), bone erosion at the quadriceps tendon attachment (9 (16.6%) vs 0, p=0.003), calcification at achilles tendon (17 (31.4%) vs 6 (12.5%), p=0.023) have been observed more frequently in patients with seronegative RA than seropositive RA. Significantly higher number of patients with bone erosion at the common extensor tendon (26 (48.1%) vs 3 (6.5%), p<0.001), calcification at achilles tendon (17 (31.4%) vs 2 (4.3%), p=0.024), erosion at triceps tendon (13 (24%) vs 1 (2.1%), p=0.035) have been detected in patients with ankylosing spondylitis than seronegative RA (table 2).

Abstract AB1229 – Table 1

	Seronegative RA	Healthy control group	Seropositive RA	Ankylosing spondylitis
Age, years	51,85±11,49	46,2±6,6	53,12±10,95	43,75±4,1
Women, n (%)	48 (88,9)	38 (100)	44 (91,7)	38 (82,6)
RA duration, year	9,8±6,75	NA	12,29±9,3	NA
RF titre, median	10,77±3,21	NA	323,68	NA
			±372,72	
AntiCCP titre, median	3,99±4,13	NA	300,16	NA
			±264,93	
DAS28, median	3,6±1,28	NA	3,73±1,45	NA
ESR, median	32,2±21,2	NA	38,73±26,88	38,72±9,16
CRP, median	12,37±27,77	NA	12,73±18,57	10,38±9,3

Abstract AB1229 – Table 2. Assessing patients with seronegative rheumatoid arthritis about enthesopathy by ultrasound- Pathological findings

Pathological finding	Seronegative RA	Healthy control group	Seropositive RA	Ankylosing spondylitis
Bone erosion at the quadriceps tendon, n(%)	9 (16,4)	0 (p=0,006)	0 (p=0,003)	3 (6,5) (p=0,25)
Hypoechogenicity in quadriceps tendon, n(%)	16 (29,6)	2 (5,8) (p=0,006)	6 (12,5) (p=0,037)	2 (4,3) (p=0,132)
Calcification at achilles tendon, n(%)	17 (31,4)	0 (p<0,001)	6 (12,5) (p=0,023)	8 (17,3) (p=0,236)
Bone erosion at the common extensor tendon, n(%)	26 (48,1)	0 (p=0,045)	2 (4,3) (p=0,296)	3 (6,5) (p<0,001)
Calcification at achilles tendon, n(%)	17 (31,4)	3 (8,5) (p=0,034)	6 (12,5) (p=0,096)	2 (4,3) (p=0,024)
Erosion at triceps tendon, n(%)	13 (24)	0 (p=0,005)	9 (18,75) (p=0,804)	1 (2,1) (p=0,035)

Conclusions: We observed that enthesitis involvement was not seldom in patients with seronegative RA. Furthermore there were also similar frequency of entesis involvement in seropositive patients with RA. The value of enthesitis sites evaluation for the differential diagnosis of patients with seronegative RA should be further investigated and the assessment of enthesitis sites in seronegative and seropositive RA patients can be important to detect active and chronic changes at the enthesitis region.

Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2018-eular.4016

Public health, health services research and health economics

AB1230

PATIENT EMPOWERMENT THROUGH THE USE OF A MOBILE PHONE APPLICATION: THE EXPERIENCE OF RHEUMABUDDY IN ITALY

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Background: Patient education and empowerment are cornerstones in the management of rheumatic and musculoskeletal diseases (RMDs). In fact, they improve the physician-patient relationship and ensure a successful shared decision making process. In recent years, the exponential growth of interactive media and the progress of technology led to the parallel development of digital healthcare and the evaluation of how tools like mobile applications (app) can contribute to patient empowerment. Rheumabuddy has been developed thanks to the collaboration of the Danish association of young patients with RMDs (FNUG) and a Danish agency specialised in digital healthcare (Daman). RheumaBuddy is designed for young patients (18–35 years old) with chronic arthritis and integrates the function of a diary to monitor the main features of the disease (e.g. pain, stiffness, fatigue) and a forum to interact with other users and provide mutual help.

Objectives: We aimed at developing the Italian version of RheumaBuddy to make it available to Italian patients with RMDs.

Methods: The Italian Society of Rheumatology Committee for young rheumatologists (SIRyoung) translated the content of the app from English to Italian adapting when needed because of language incompatibility.

Results: The Italian version of RheumaBuddy was launched on the 12th October 2017 (World Arthritis Day) in partnership with national patient associations (ANMAR and APMAR). The app was also presented via a press release from the Italian Society of Rheumatology. To date, RheumaBuddy was downloaded by 1182 users with 822 of them currently using the app on a regular basis. The feedback collected so far highlighted the usefulness of the app and pointed out potential weaknesses and issues to be tailored to the Italian population. The gathering of feedback from users is still ongoing.

Conclusions: We developed the Italian version of RheumaBuddy, which is currently used by a consistent number of young patients with chronic arthritis. A board including patient representatives, rheumatologists and the app developers will be established to specifically tailor the app according to the needs and priority of Italian users and based on the feedback collected.

Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2018-eular.4229

AB1231

EFFICACY AND COST ANALYSIS OF A SYSTEMATIC SWITCH FROM ORIGINATOR INFliximab TO BIOSIMILAR CT-P13 OF ALL PATIENTS WITH INFLAMMATORY ARTHRITIS FROM A SINGLE CENTRE

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Objectives: The aim of this study was to analyse efficacy, safety and cost savings of switching from infliximab originator (IFXor) to the biosimilar (BS) CT-P13 in single centre.

Methods: Eligible patients were those older than 18 years old with the diagnosis of rheumatoid arthritis (RA), spondylarthritis (SpA) and psoriatic arthritis (PsA) on treatment (Tx) with IFXor for at least 6 months and with stable disease activity. In December 2016 all eligible patients were proposed to switch to CT-P13. At the day of the last Tx with IFXor, informed consent, data and blood samples were collected. On the next Tx day, CT-P13 was administered after standard evaluation of efficacy and safety. Efficacy was measured considering change from baseline in Disease Activity Score in 28 joints (DAS28) for RA and PsA and in Ankylosing Spondylitis Disease Activity Score (ASDAS) for SpA. Disease worsening was

considered when an increase of 1.2 from baseline in DAS28 or an increase of 1.1 in ASDAS occurred. A cost analysis was done based on the purchasing prices of the 2 drugs at our centre.

Results: In a 12 months period switch to CT-P13 was performed in 60 patients for non-medical reasons. Disease activity (DA) was stable over the observation period and similar to the values observed with IFXor. Median follow-up time was 261 days during which disease worsening occurred in 3 (5%) patients. 1 patient had a minor adverse event (oedema of the lip). These 4 (6.7%) patients stopped the BS. One returned to IFXor and the other 3 switched to another drug. The switch to CT-P13 represented a 26.4% reduction of costs in the use of IFX Tx in these patients.

Abstract AB1231 – Table 1. Numbers are medians unless otherwise stated.

	Total (n=60)	SpA (n=36; 60%)	RA (n=16; 27%)	PA (n=8; 13%)
Age (years)	53 (48–64)	50 (41–59)	59 (52–70)	56 (48–64)
Gender (n,% male)	39 (65%)	30 (83%)	2 (13%)	7 (88%)
Disease duration (years)	17 (10–23)	16 (10–22)	18 (13–24)	16 (10–22)
Patients on methotrexate	41 (68%)	20 (33%)	15 (25%)	6 (10%)
Patients with previous biologic therapy	4 (6.7%)	1 (2.8%)	3 (18.8%)	0 (0%)
Time on IFX originator before switch (years)	7.9 (6.5–11.9)	7.7 (6.4–12.3)	8.4 (6.7–12.4)	7.6 (6.7–9.6)
Time on CT-P13 since switch (months)	9 (7–11)	9 (7–11)	10 (9–10)	9 (4–10)

Abstract AB1231 – Table 2. Variables median from baseline to 9 months after switch to CT-P13. ESR – Erythrocyte Sedimentation Rate; CRP – C-Reactive Protein; PtGA – Patient global assessment of DA; PhGA – Physician global assessment of DA.

	Baseline	3 Months after switch	6 Months after switch	9 Months after switch	Variation from baseline to 9 Months after switch
ESR (mm/h)	15 (10–21)	17 (9–29)	15 (9–24)	15 (9–24)	0
CRP (mg/dL)	0.18 (0.80–0.57)	0.17 (0.06–0.50)	0.19 (0.10–0.46)	0.25 (0.10–0.72)	0.07
PtGA (0–100)	30 (20–50)	20 (30–50)	30 (3–50)	30 (15–50)	0
PhGA (0–100)	20 (10–30)	20 (10–30)	20 (0–30)	20 (10–30)	0

Abstract AB1231 – Figure 1

Conclusions: The switch in routine care of a group of RA, SpA and PsA patients from IFXor to CT-P13 did not affect efficacy and safety and reduced costs in 26.4%.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5844

AB1232

ESTIMATING THE ECONOMIC VALUE OF A PATIENT SUPPORT PROGRAM IN RHEUMATOID ARTHRITIS IN THE UNITED KINGDOM

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Background: A Patient Support Program (PSP) offered by AbbVie to adalimumab-treated patients assists them with issues pertaining to medication costs, nurse support, injection training, pen disposal, and medication reminders. A number of studies have reported the benefit of enrollment in this PSP from different perspectives, including clinical, patient-reported, and adherence outcomes.^{1–2} There is limited information available on the economic value of the PSP.

Objectives: To estimate the incremental economic value associated with enrollment in the PSP for adalimumab-treated patients with rheumatoid arthritis (RA) from a UK societal perspective.

Methods: An Excel-based economic model was developed to describe adalimumab-treated PSP enrollees over non-enrollees in terms of a) improvement in clinical status as measured by the Health Assessment Questionnaire Disability Index (HAQ-DI), which resulted in reduced healthcare resource utilisation (HRU), and b) improvement in work productivity as measured by the Work Productivity and Activity Impairment Questionnaire (WPAI). The associated incremental direct and indirect cost savings were estimated over a 12 month period. Scores on HAQ-DI, work productivity impairment, and employment rate were obtained from a prospective, observational Phase IV study assessing patient satisfaction and outcomes in the context of the PSP (AbbVie Care) among RA patients (NCT01383421, PASSION)¹. Inputs from literature and UK-specific publicly available sources were used to model the association between HAQ-DI score categories (0 –<0.6, 0.6 –<1.1, 1.1 –<1.6, 1.6 –<2.1, 2.1–3) and HRU among RA patients, and to obtain unit costs of HRU (i.e., hospitalizations, specialist visits, imaging assessments) and weekly work compensation.

Results: In PASSION, a greater proportion of PSP enrollees were in the lower HAQ-DI categories (i.e., better outcomes) and enrollees had greater reduction in total work impairment than non-enrollees after treatment with adalimumab. Assuming a population of 10 000 adalimumab-treated RA patients in the UK, this was associated with an incremental annual cost saving of £2,320,809 should all these patients enrol in the PSP. The largest proportion of incremental cost saving resulted from the reduction in RA-related hospitalizations (£1,550,637; 66.8%). Cost saving due to improved work productivity accounted for the second largest proportion (£686,963, 29.6%). Specialist visits and imaging assessments accounted for 1.9% (£44,564) and 1.7% (£38,645) of the total incremental cost saving, respectively.

Conclusions: Enrollment in AbbVie's PSP was shown to be associated with incremental cost saving among adalimumab-treated RA patients due to reduced resource utilisation and improved work productivity.

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Acknowledgements: Medical writing support was provided by Cheryl Q. Xiang of Analysis Group; this support was funded by AbbVie.

Disclosure of Interest: A. Ostor Grant/research support from: Roche, Chugai, MSD, AbbVie, Pfizer, Novartis, Napp, Janssen, Lilly and BMS, Consultant for: Roche, Chugai, MSD, AbbVie, Pfizer, Novartis, Napp, Janssen, Lilly and BMS, V. Garg Shareholder of: AbbVie, Employee of: AbbVie, M. Yang Employee of: Analysis Group, Inc., which has received consultancy fees from AbbVie, C. Chamberlain Employee of: Analysis Group, Inc., which has received consultancy fees from AbbVie, M. Skup Shareholder of: AbbVie, Employee of: AbbVie

DOI: 10.1136/annrheumdis-2018-eular.5685

AB1233

DOES TIME MATTER? A SYSTEMATIC REVIEW TO ASSESS THE RELATIONSHIP BETWEEN DELAY IN DIAGNOSIS AND COSTS IN DMARD-NAÏVE RA PATIENTS

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Background: Early diagnosis is crucial to enable timely DMARDs initiation in RA patients. Although, early treatment improves clinical outcomes, it is unclear whether this has a similar impact on health economic outcomes. Early DMARDs