

students must be encouraged, particularly supporting research seedbeds and young researchers.

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#### EFFECTS OF ADALIMUMAB INITIATION ON CORTICOSTEROID UTILISATION AND MEDICAL COSTS AMONG PATIENTS WITH RHEUMATOID ARTHRITIS

Y. Qiao<sup>1</sup>, K.L. Winthrop<sup>2</sup>, J. Griffith<sup>3</sup>, C.M. Kaplan<sup>1</sup>, C.A. Spivey<sup>1</sup>, A. Postlethwaite<sup>1</sup>, J. Wang<sup>1</sup>. <sup>1</sup>University Of Tennessee Health Science Center, Memphis; <sup>2</sup>Oregon Health Sciences University, Portland; <sup>3</sup>AbbVie, North Chicago, USA

**Background:** Treatment guidelines recommend low dose corticosteroids (steroids) as a short-term (<3 months) therapy among rheumatoid arthritis (RA) patients to 'bridge' patients until benefits of disease modifying anti-rheumatic drugs (DMARDs) are observed.<sup>1</sup> However, for many patients it may be difficult to wean/eliminate steroids once they are initiated. Initiation of more effective therapies such as biologics may help promote reduction in steroid use.

**Objectives:** This study examined the impact of initiating adalimumab (ADA) on steroid utilisation and medical costs among patients with RA.

**Methods:** A retrospective analysis was conducted among adult RA patients initiating ADA as the initial biologic in the MarketScan Database (2012–2016). Study outcomes included whether oral/injectable steroids were used, daily dose, dosage categories (<5 and ≥5 mg/day), number of steroid injections, and medical costs. Outcomes were compared 6 months pre- and post ADA initiation using Chi-square tests for categorical variables and paired t-tests and Wilcoxon rank sum tests for continuous variables. Because various types of variables were used for study outcomes, mixed effects logistic, classical linear, multinomial logistic models, and linear model with a log link and gamma distribution were used to adjust for patient demographic and health characteristics such as age, gender, health plan type, census region, and Charlson Comorbidity Index.

**Results:** The study sample included 6,214 ADA initiators. As compared to the 6 months prior to ADA initiation, there was a reduction in proportions of patients using oral steroids (from 72% to 59.5%) and injectable steroids (from 34.9% to 26.9%), average daily dose of oral steroids (from 3.3 mg/day to 2.5 mg/day), patients with dose ≥5 mg/day (from 22.3% to 15.1%), number of steroid injections (from 0.63 to 0.47), and medical costs (from \$5,233.5 to \$4,807.9) ( $p < 0.01$  for all comparisons). Multivariate analysis produced similar patterns. In the 6 months post-ADA initiation, patients were less likely to use oral steroids (Odds Ratio (OR): 0.40; 95% Confidence Interval (CI): 0.36–0.45) or steroid injections (OR: 0.59; 95% CI: 0.54–0.65). Coefficient estimate for daily dose reduction was  $-0.87$  (95% CI:  $-1.00$ – $-0.74$ ). Post-ADA relative risk ratios for dosage categories <5 mg/day and ≥5 mg/day compared to zero were 0.48 (95% CI: 0.43–0.53) and 0.36 (95% CI: 0.32–0.41), respectively. Post-ADA incidence rate ratio for number of steroid injections was 0.72 (95% CI: 0.69–0.76). Ratio estimate for medical costs was 0.84 (95% CI: 0.79–0.89). All multivariate results reported were significant ( $p < 0.01$ ).

**Conclusions:** Among patients with RA, following ADA initiation, there is a reduction in steroid utilisation and its dose, and patients' medical costs. Prospective studies should be conducted to confirm this relationship in the future.

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#### RECOMMENDATIONS FOR THE ASSESSMENT AND OPTIMISATION OF ADHERENCE TO DISEASE-MODIFYING DRUGS IN CHRONIC INFLAMMATORY RHEUMATIC DISEASES: A PROCESS BASED ON LITERATURE REVIEWS AND CONSENSUS

L. Gossec<sup>1</sup>, A. Molto<sup>1</sup>, X. Romand<sup>1</sup>, D. Puyraimond-Zemmour<sup>1</sup>, M. Lavielle<sup>2</sup>, C. Beauvais<sup>2</sup>, E. Senbel<sup>2</sup>, R.-M. Flipo<sup>2</sup>, S. Pouplin<sup>2</sup>, C. Richez<sup>2</sup>, A. Sarau<sup>2</sup>, L. Gutermann<sup>2</sup>, P. Gaudin<sup>2</sup>, D. Wendling<sup>2</sup>, M. Dougados<sup>2</sup>. <sup>1</sup>Rencontres d'Experts 2017 Working Group, Paris; <sup>2</sup>Rencontres d'Experts 2017 Working Group, Paris, France

**Background:** In chronic inflammatory rheumatic diseases including rheumatoid arthritis (RA), spondyloarthritis (SpA), psoriatic arthritis (PsA) and connective tissue diseases (CTD), adherence to disease-modifying drugs is only moderate over the long term and non-adherence may lead to complications, unnecessary treatment switches and heightened costs.

**Objectives:** To develop recommendations to facilitate in daily practice, the measurement of non-adherence, the individualised assessment of risk of non-adherence and the management of non-adherence with the objective to optimise adherence to treatments in patients with chronic inflammatory rheumatic diseases.

**Methods:** The project scope was limited to chronic inflammatory rheumatic diseases (i.e., RA, SpA, PsA, CTD, crystal-induced arthritis, vasculitis and auto-inflammatory diseases), and to disease-modifying drugs (i.e., mainly conventional DMARDs, biologics and targeted synthetic DMARDs). The process comprised (a) systematic literature reviews of data from 3 key databases and several websites, of methods (including questionnaires) to measure non-adherence, risk factors for non-adherence and management options for non-adherence with their reported efficacy. (b) a consensus of 104 rheumatologist and nurse experts during a 2 day face-to-face meeting. (c) Final recommendations were anonymously evaluated by the participants for agreement and ease of applicability (1–5 is highest).

**Results:** (a) After screening 1131 publications and 194 other documents, 231 relevant papers were analysed. (b) The consensus process led to 5 overarching principles and 10 recommendations regarding adherence. In summary, adherence is important, imperfect, and multi-factorial. Patient-physician interactions play an important role, as do patient beliefs. Adherence should be assessed at each outpatient visit, at least using an open question. Questionnaires and hydroxychloroquine blood level assessments may also be useful. People who are younger, worried of side effects, do not see the necessity of the treatment, and are in psychological distress are more prone to non-adherence. Patient information and education, and patient/physician shared decision, are key to optimise adherence. Other techniques such as formalised education sessions, motivational interviewing and cognitive behavioural therapy may be useful. All health professionals can get involved and e-health may be a support. (c) The agreement with the recommendations was high (range of means, 3.88–4.47) but ease of applicability was lower (2.69–4.38).

**Conclusions:** Using an evidence-based approach followed by expert consensus, this initiative should improve the assessment and optimisation of adherence in chronic inflammatory rheumatic disorders. Next steps include dissemination and implementation.

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#### EUROREHUMAVISION: ARE THE LARGEST EUROPEAN RHEUMATOLOGY SOCIETIES THE ONES WITH THE MOST ORAL COMMUNICATIONS?

M. Paulino Huertas. *Rheumatology, Hospital General De Ciudad Real, Ciudad Real, Spain*

**Background:** Between June 14 and 17, 2017, coinciding with the 70th anniversary of its foundation, the annual EULAR congress took place in Madrid. With 14,000 participants from 130 countries, 4845 accepted abstracts, 2300 posters and more than 800 oral communications, it became a record congress in the history of European rheumatology.

Now, EULAR is formed, among others, by 45 national rheumatology societies. Are the various countries proportionally represented at a scientific level? Those with the greatest number of rheumatologists have a greater weight in communications to the congress?

**Objectives:** To assess the scientific weight of the different European rheumatological societies in the EULAR congress

**Secondary objective:** To analyse the characteristics of these societies in terms of the number of rheumatologists, specialists for 100,000 inhabitants and percentage with the total number of doctors