OP0304-PARE

DEVELOPMENT OF INTERACTIVE DECISION AID TOOL FOR MOTHERHOOD AND PARENTHOOD AMONG PATIENTS LIVING WITH AUTOIMMUNE RHEUMATIC DISEASES

Y. El-Miedany^{1,2}, M. El Gaafary³, N. El Aroussy⁴, S. Bahlas⁵, D. Palmer⁶.
¹Canterbury Christ Church University, Rheumatology, Canterbury, United Kingdom; ²King's College London, Education, London, United Kingdom; ³Faculty of Medicine, Ain Shams University, Community and Public health, Cairo, Egypt; ⁴Faculty of Medicine, Ain Shams University, Rheumatology and Rehabilitation, Cairo, Egypt; ⁵King Abdulaziz University, Rheumatology, Jeddah, Saudi Arabia; ⁶North Middlesex University Hospital, Rheumatology, London, United Kingdom

Background: There are clear educational pregnancy-related needs for both women and men living with Autoimmune Rheumatic Diseases (ARDs) who seek specific advice from their health care providers. Most of the time those subjects would seek specific information regarding their chances of pregnancy, impact of the disease, as well as safety of their medications during pregnancy and breast feeding. They also require emotional and physical support as well as advice towards practical coping strategies to manage pain and disease flares particularly during the postnatal period.

Objectives: To evaluate the effectiveness of a new interactive pregnancy decision aid (DA) developed for both men and women living with inflammatory arthritis.

Methods: Driven by the Cochrane review of patient decision aids (DA) and the International Patient Decision Aids framework (IPDAS), which identify shared decision making (SDM) instrument as evidence-based tools designed to help people engage in deliberative management-related decision making by providing information on the options and outcomes relevant to health status. This project involved an overall three-phase SDM aid development. It has been set up for both men and women and included information on pregnancy, contraception and breast feeding. The first phase included the development of the decision tool and review by expert faculty composed of: decision experts, patient representatives, policy makers, and patients living with RA, PsA, AS and SLE. The second phase was a pilot testing of the tool in both online and paper format styles. The third phase involved an evaluation of the decision support tool and its impact on the patients. The DA adopted an interactive style with embedded video recordings (this was converted into text in the paper format). All the patient completed these questionnaires: the ReproKnow, Decisional Conflict Scale (DCS), Hospital Anxiety and Depression Scale (HADS), and Arthritis Self-Efficacy Scale (ASES) pre- and post-intervention. A control group of 92 patients (19 men and 71 women) managed according to the standard protocols was also included. Comprehensibility of the video recordings were also assessed using VAS (0-10). **Results:** 126 patients shared in this work (101 women and 25 men). The patients who received the DA had an 81% (women) and 83% (men) increase in ReproKnow scores and a 76 % decrease in scores on the decisional conflict (DCS), compared to the control group (10 % and 11 % respectively); $p < 0.001$. There were no changes in the scores of depression and anxiety symptoms ($p = 0.873$) indicating no adverse psychological impact detected. There was no significant difference in terms of self-efficacy assessment $p = 0.481$. The patients rated the comprehensibility of the video recording as high (9.4/10).

Conclusion: The DA which was developed to support pregnancy and breast feeding decision-making for patients with ARDs. The interactive SDM aid was found to be a simple, user-friendly tool which can be implemented in standard clinical practice. The interactive style made it more comprehensible to the patients. It is consistent with the IPDAS criteria. Results revealed its effectiveness in improving relevant knowledge and reducing decisional conflict without causing distress to the patients.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.513

Controversies on phenotypes in PsA

OP0305

VALIDATION OF THE PSORIASIS EPIDEMIOLOGY SCREENING TOOL (PEST) AND THE NEW EARLY ARTHRITIS FOR PSORIATIC PATIENTS (EARP) IN PEDIATRIC POPULATION - PILOT STUDY

Y. Butbul¹. ¹The Ruth and Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology; PEDIATRIC RHEUMATOLOGY UNIT, Haifa, Israel

Background: Juvenile Psoriatic Arthritis (JPsA) is an inflammatory arthritis associated with irreversible joint damage among the pediatric population, which is associated with psoriasis in most cases.

While there are few validated screening tools for diagnosis of arthritis for adult patients with psoriasis, those screening tools were never evaluated in children.

Objectives: The aims of this study were to evaluate two screening tools among pediatric patients with psoriasis.

Methods: Thirty-nine patients with the diagnosis of psoriasis were administered two screening questionnaires: the new Early Arthritis for Psoriatic Patients (EARP) questionnaire and the Psoriatic Arthritis Screening and Evaluation (PASE) questionnaire.

All patients were evaluated by a rheumatologist for the diagnosis of JPsA, and the accuracy of the two questionnaires compared.

Results: The 4/39 (10.1%) patients diagnosed with JPsA had a PEST questionnaire score of ≥ 3 , compared to a median PEST score of the patients without the diagnosis of JPsA of 0 (0-2). Thus both the sensitivity and specificity of the PEST in diagnosing JPsA were 100%.

For the EARP questionnaire, 8/39 patients had a screening questionnaire score of ≥ 3 , suggestive of JPsA, four were true positive, and four false positive. Thus, the sensitivity and specificity of EARP in diagnosing JPsA were 100% and 89%, respectively.

Conclusion: Both the PEST and EARP questionnaires were easy to use and had high sensitivity for pediatric population with psoriasis, however the PEST questionnaire had a higher specificity than the EARP.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.4165

OP0306

ETANERCEPT AND ADALIMUMAB IN THE TREATMENT OF JUVENILE PSORIATIC ARTHRITIS

K. Aleksanyan¹, S. Chebysheva¹, O. Sukhovyova¹, E. Zholobova¹. ¹I.M. Sechenov First Moscow State Medical University, Clinical Institute of Child Health named after N.F. Filatov, Moscow, Russian Federation

Background: Juvenile psoriatic arthritis (JPsA) accounts for 4 to 9% of children with juvenile arthritis (1). Biologics, particularly TNF- α inhibitors, have proved to be effective and safe for treatment of psoriatic arthritis in adults (2). However, no comprehensive evidence exists on the comparative effectiveness and safety of TNF- α inhibitors in the treatment of JPsA, which challenges a decision of what biologic should be prescribed to children with JPsA.

Objectives: To study the comparative effectiveness of etanercept and adalimumab in patients with JPsA with respect to both the articular and skin manifestations.

Methods: Our observational (2012-2019), parallel-group, open-label, single-centre cohort clinical study involved 34 patients (2-13 y/o) with JPsA who met Vancouver and I/E criteria and received etanercept SC (0.8 mg/kg QW, max 50 mg per week) or adalimumab SC (max 40 mg Q2W), both in combination with methotrexate (10-15 mg/m² QW). Intention-to-treat analysis was used to evaluate treatment efficacy at months 6, 12, and 18 after biologic therapy initiation. To assess articular manifestations of JPsA, we applied ACRpedi criteria; to estimate the surface area of involved skin and severity of psoriasis – the PASI score.

Results: We observed 34 patients with JPsA (2 to 13 y/o), who were initiated by biologic therapy (etanercept [n=18 - group 1] and adalimumab [n=16 - group 2]) (Table 1, Figure 1).

Table 1. Clinical and demographic characteristics of patients with JPsA before biologic therapy initiation (n=34)

clinical and demographic indicators	Group 1	Group 2
	(Etanercept)	(Adalimumab)
	M $\pm$ SD / Me (Q1-Q3)	M $\pm$ SD / Me (Q1-Q3)
Girl/Boy Ratio	12:6 (2:1)	10:6 (1,7:1)
Average age, years	7,58 $\pm$ 3,7	5,8 $\pm$ 3
Duration of the disease, years	3,0 (1,4-6,6)	3,5 $\pm$ 2
Uveitis (n, %)	0	5 (31,3%)
ANA positivity (n, %)	2 (11%)	8 (50%)
RF positivity (%)	0	0
No. active joints	8,0 (5-16,5)	5,5 (3-8,5)
No. joints with LOM	9(5,75-18,25)	6 (3,5-10,5)
PGA of disease activity, mm	70 $\pm$ 15	65,9 $\pm$ 12,7
Parent's global assessment of the child's pain, VAS	71,5 (65-90)	72,5 $\pm$ 14
CHAQ	1,34 (1,1-1,68)	1,25 (0,93-1,44)
Psoriasis BSA, %	7,0 (4-13)	8 (3-13)
PASI score	5,7 (3-8,2)	9 (5-19)
ESR, mm/h	28 (20,75-40)	24,5 (21-32)

ANA - antinuclear antibodies, RF - rheumatoid factor, LOM - limitation of motion, PGA - physician's global assessment; VAS - visual analog scale, CHAQ - Childhood Health Assessment Questionnaire; BSA - body surface area; PASI - Psoriasis Area Severity Index, ESR - erythrocyte sedimentation rate; CRP - C-reactive protein.

Figure 1. Comparative efficacy of etanercept and adalimumab in children with JPsA, according to the ACRpedi criteria at months 6, 12, and 18 after treatment initiation. No statistically significant difference in the efficacy of etanercept and adalimumab in patients with juvenile psoriatic arthritis was obtained, according to the ACRpedi criteria. The efficacy of biologic treatment on skin manifestations of JPsA was also evaluated (Figure 2).

Figure 2. Comparative efficacy of etanercept and adalimumab in children with JPsA by PASI score at months 6, 12, and 18 after treatment initiation. Both TNF- α blockers (etanercept, adalimumab) showed similar efficacy for psoriasis in patients with JPsA, though response rate for psoriasis in adalimumab group was higher than in etanercept group.

Conclusion: Both TNF- α inhibitors (etanercept and adalimumab) proved to be effective in the treatment of arthritis and psoriasis in JPsA. There was no statistically significant difference in the effectiveness of etanercept and adalimumab in the treatment of JPsA in our cohort. Both biological agents can be successfully used to treat JPsA.

REFERENCES:

- Beukelman T., et al. The new Childhood Arthritis and Rheumatology Research Alliance (CARRA) registry: design, rationale, and characteristics of patients enrolled in the first 12 months. *Pediatr Rheumatol Online J.* 2017;15(1):30
- Ruyssen-Witrand A., et al. Efficacy and safety of biologics in psoriatic arthritis: a systematic literature review and network meta-analysis. *RMD Open.* 2020;6(1):e001117

Disclosure of Interests: Karina Aleksanyan: None declared, Svetlana Chebysheva: None declared, Olga Sukhovyova: None declared, Elena Zholobova: Speakers bureau: Pfizer, AbbVie, Novartis, Roche.

DOI: 10.1136/annrheumdis-2021-eular.2827

Pharmacology and Microbiota

OP0307

GUT MICROBIOTA AND ITS RELEVANCE TO PERIPHERAL LYMPHOCYTE SUBPOPULATION IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

T. Cheng¹, X. Wang¹, S.X. Zhang¹, J. Yang², C. Zhao³, Y. Wang¹, J. An¹, J. Chen¹. ¹The Second Hospital of Shanxi Medical University / Shanxi Medical University, Department of Rheumatology, Taiyuan, China; ²The Central Hospital

of Xinghualing District, Department of Rheumatology, Taiyuan, China; ³Xi'an International Medical Center Hospital, Department of Rheumatology, Taiyuan, China

Background: Systemic lupus erythematosus (SLE) is an autoimmune disease with disturbance of lymphocyte subpopulations¹. Growing experimental and clinical evidence suggests that chronic inflammatory response induced by gut microbiome critically contribute to the development of SLE^{2,3}.

Objectives: To investigate the characteristics of gut microbiome and the associations between flora and peripheral lymphocyte subpopulations in SLE patients.

Methods: A total of 19 SLE patients who fulfilled the 2019 American college of Rheumatology (ACR) and European League Against Rheumatism (EULAR) classification criteria and 16 age- and sex- matched healthy controls (HC) were enrolled in this study. The peripheral T lymphocyte subsets of these participants were assessed by flow cytometry and the gut microbiota were investigated via 16s rRNA. Indicators of disease activity such as erythrocyte sedimentation rate (ESR), complement C3 and C4 were recorded at the same time. Mann-Whitney U test was applied to compare T lymphocyte subsets between SLE patients and HC. Spearman analysis was used for calculating correlation between T subsets and highly expressed differential flora as well as their correlation with disease activity indicators. All P-values reported herein were two-tailed and P-value<0.05 was taken as statistically significant.

Results: SLE patients had higher proportions of Th17 cells (P=0.020) and $\gamma\delta$ T cells (P=0.018) but lower levels of Treg cells (P=0.001), Tfh cells (P=0.018) and Naïve CD4⁺T cells (P=0.004) (Figure 1a-e). The diversity and relative abundance of intestinal flora in patients with SLE were significantly different from those in HCs. Detailedly, the α -diversity was decreased in SLE (P<0.05) (Figure 2a-c). Compared with HC, 11 species of flora were discovered to be distinctly different (P<0.05) (Figure 2d-e). Moreover, there was a significant positive correlation between Treg levels and *Ruminococcus2* (P=0.042), Th17 and *Megamonas* (P=0.009), $\gamma\delta$ T and *Streptococcus* (P=0.004) as well as *Megamonas* (P=0.003), Tfh and *Bacteroides* (P=0.040). Whereas Th1 levels and *Bifidobacterium* were negatively correlated in these participants (P=0.005). As for clinical disease measures, there were negative correlations not only between ESR and Treg

Figure 1(a-e) Comparison of T lymphocyte subsets in peripheral blood between healthy controls and SLE patients.

Figure 2(a-e) Variation of gut microbiota in SLE patients compared with HC and the LDA score of highly expressed differential flora. *P < 0.05, **P < 0.01, ***P < 0.001.