THU0639

CHINESE EXPERIENCE WITH METHOTREXATE AS MAINTENANCE THERAPY IN IGG4-RELATED DISEASEF. Lian, J. Zhou, Y. Wang, H. Xu, L. Liang, X. Yang. *Dept. Of Rheumatology, 1st Affiliated Hospital Of Sun Yat-Sen University, Guangzhou, China*

Background: So far, for IgG4-related disease, no randomised clinical trials concerning therapy are published. Corticosteroids are considered the first-line treatment and most patients respond promptly to steroids. However, recurrent or refractory cases are common. Various immunosuppressive agents such as azathioprine (AZA), methotrexate or mycophenolate mofetil (MMF) have been introduced as corticosteroid-sparing treatment on small case series.¹ High cost of MMF and occasional severe bone marrow toxicity of Aza have limited their use in Chinese patients. Efficacious therapies with less toxicity and more cost-effectiveness were required to be identified and thus modify the immunotherapeutic strategies. Methotrexate (MTX) was commonly used in many other autoimmune disease. In the present study, we retrospectively reviewed 84 IgG4-RD patients who received MMF, Aza or MTX as maintenance regimens, compared the efficacy among these three groups and observed side effects of the medication.

Objectives: To assess the efficacy, safety and tolerability of methotrexate as maintenance therapy in the treatment of IgG4-related disease.

Methods: We retrospectively reviewed 84 IgG4-RD patients refractory or recurrent to steroids in south China from January 2012 to December 2015 who received MMF, Aza or MTX as maintenance regimen. MMF was administered daily to a maximum of 3 g/day. Aza was given at a dose maximum of 200 mg/day. MTX was given at a dose of 10–20 mg/week. Steroids were continued at the lowest effective dose. Details of the clinical presentation, serological, immunological variables and side effects were collected.

Results: Of the 84 patients, no significance of demographic variables was found among MMF group (22 cases), Aza group (29 cases), and MTX group (33 cases). The 2 year overall, the three groups had similar rates of remaining remission, which was 87.9% (29/33) in MTX group, 86.2% (25/29) in Aza group and 86.3% (19/22) in MMF group. Of the 11 recurrent cases despite immunosuppressive therapies, 2 cases were related to thyroid gland, 4 cases were related to pancreas, 3 cases were related to nose, and 2 cases were related to brain. All cases but the 2 patients with brain lesions achieved remission again after we changed the immunosuppressives. One case on Aza had severe bone marrow toxicity and 2 cases on MMF had severe infection. None of the cases on MTX had side effects affecting the treatment course. It's only associated with reversible liver dysfunction in our study.

Conclusions: MTX was as efficacious as MMF and Aza in maintaining remission in IgG4-related diseases, but with lower price and less severe side effects. IgG4-related brain lesions may be refractory and probably need to be treated with more aggressive agents.

REFERENCE:

- [1] Kamisawa T, Zen Y, Pillai S, Stone JH. IgG4-related disease. *Lancet* 2015; 385(9976):1460–71.

Acknowledgements: Project supported by National Natural Science Foundation of China (No. 81102270) and Guangdong Natural Science Foundation No. 2016 A030313217)

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1612

THURSDAY, 14 JUNE 2018

Public health, health services research and health economics

THU0640

PHARMACOLOGICAL TREATMENT AMONG NEWLY DIAGNOSED PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS IN THE UNITED STATESA. Marshall¹, K. Gupta¹, M. Pazirandeh¹, M. Bonafede², D. McMorrow². ¹Bristol-Myers Squibb, Princeton; ²IBM Watson Health, Cambridge, USA

Background: Juvenile idiopathic arthritis (JIA) is a chronic condition affecting approximately 3 000 000 children and adolescents in the United States, yet little is documented about its real-world burden or treatment patterns.¹

Objectives: To describe treatment patterns among JIA patients (pts) who initiated biologic and non-biologic DMARDs.

Methods: Truven Health Analytics MarketScan[®] Commercial Database was used to identify pts aged 2–17 years with a new JIA diagnosis (index date; 2008–2016) and 12 months of continuous enrolment pre- and post-diagnosis. Pts with other rheumatic or autoimmune conditions were excluded. Receipt of a biologic and/or non-biologic was evaluated on or after the new JIA diagnosis. JIA-related

healthcare resource utilisation was defined as the presence of JIA diagnosis on a medical claim.

Results: A total of 3815 pts newly diagnosed with JIA met study selection criteria (mean [SD] age 10.0 [4.5] years, 69.0% female). Pts with 12 months of continuous enrolment post-treatment initiation (n=2014) were classified as non-biologic only (n=734), biologic only (n=873), and both biologic and non-biologic (n=407) users. Among all three cohorts, baseline corticosteroid use was 48.8%–60.4%, prescription NSAID use 69.6%–85.3% and opioid use 24.5%–29.0%. Mean (SD) number of JIA-related outpatient office visits was 4.9 (3.2) in non-biologic-only users, 6.0 (3.8) in biologic and non-biologic users, and 5.0 (4.4) in biologic-only users. The most commonly used non-biologic was MTX and biologic was etanercept (table 1). In the year following diagnosis, total JIA-related costs were highest among pts who used only biologics (mean \$27,292; SD \$32,833; median \$20,782) vs biologic and non-biologic agents (mean \$15,808; SD \$16,086; median \$11,925) and vs only non-biologics (mean \$4094; SD \$9292; median \$1918) (all p<0.001). Mean prescription costs in the year following biologic initiation were \$17 985 (SD \$11,188) for etanercept, \$26 217 (SD \$15,039) for adalimumab and \$38 260 (SD \$42,260) for infliximab. Of pts treated with a biologic only, TNF inhibitors (TNFi) comprised 87.1% of their treatment costs.

Abstract THU0640 – Table 1. JIA Treatment Frequency

	First agent used	Biologic-only users (n=873)	Biologic and non-biologic users (n=407)	Non-biologic-only users (n=734)	All treated patients (n=2014)
Biologics	Abatacept	15 (1.7)	6 (1.5)		21 (1.0)
	Adalimumab	188 (21.0)	106 (25.7)		294 (14.4)
	Anakinra	43 (4.8)	9 (2.2)		52 (2.5)
	Etanercept	523 (58.4)	259 (62.7)		782 (38.3)
	Infliximab	71 (7.9)	20 (4.8)		91 (4.5)
	Intravenous immunoglobulin	17 (1.9)	1 (0.2)		18 (0.9)
	Tocilizumab	16 (1.8)	6 (1.5)		22 (1.1)
	Hydroxychloroquine		31 (7.5)	149 (20.2)	180 (8.8)
	MTX		341 (82.6)	506 (68.8)	847 (41.4)
	Sulfasalazine		42 (10.2)	75 (10.2)	117 (5.7)
Non-biologics	Other (azathioprine, leflunomide)		5 (1.2)	15 (2.0)	20 (1.0)

Data are n (%)

Conclusions: Initial JIA treatment is driven by etanercept, MTX and adalimumab, with the majority of biologic costs coming from TNFi. Receipt of other supportive medications (corticosteroids and NSAIDs) was common and JIA-related costs varied substantially by treatment cohort.

REFERENCE:

- [1] Chang HJ, et al. *JAMA* 2010;303:1328.

Disclosure of Interest: A. Marshall Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, K. Gupta Employee of: Bristol-Myers Squibb, M. Pazirandeh Employee of: Bristol-Myers Squibb, M. Bonafede Grant/research support from: Bristol-Myers Squibb, Employee of: Truven Health Analytics (IBM), D. McMorrow Grant/research support from: Bristol-Myers Squibb, Employee of: Truven Health Analytics (IBM)

DOI: 10.1136/annrheumdis-2018-eular.2630

THU0641

MUSCULOSKELETAL DISEASE CLINIC MANAGED BY A RHEUMATOLOGY DEPARTMENTA.J. Aznar Esquivel¹, H. Sánchez-Pérez¹, A. López-Hijazo², S. Bustabad-Reyes¹. ¹Rheumatology; ²Unidad De Gestión, Hospital Universitario De Canarias, San Cristobal De La Laguna, Spain

Background: Medical pathology of the Locomotor Apparatus (LA) is highly prevalent in the general population, tends to chronicity, generates an important temporary or definitive disability with great impact on the quality of life and functionality of the patient and entails high indirect and direct costs for the System National Health Classically, the medical pathology of LA has been managed by Traumatology departments.

Objectives: To analyse the characteristics of an LA clinic managed by the Rheumatology department and compare the data with the Traumatology department in the health area of the north of Tenerife (Reference population: 4 30 021 inhabitants).

Methods: We present the data collected from the Rheumatology clinic aimed to treat the medical pathology of the LA during the first 3 months, October to December 2017 and we compared the results with the same period of 2016, when this consultation was in charge of Traumatology department. Patients are referred from Primary Care (PC). We recorded the epidemiological characteristics of the patients, reason for consultation and final diagnosis, ability to resolve the consultation, need to request additional tests, treatment prescribed at discharge and referrals to other specialties.

Results: We treated 744 patients, with an average age of 55.26 years (± 15.02), mainly women (62.6%). The most frequent referral consultation were: gonalgia (30.6%), polyarthralgia (14.5%) and low back pain (13.7%). Peripheral Osteoarthritis (26.6%) and soft tissue diseases (24.2%) were the most frequent processes. In 11.6% of the cases, no organic cause was found that justified the referred clinic ("nonspecific mechanical pathology") and 4.3% were asymptomatic when assessed. They provided complementary tests in the first consultation 85.2% of patients: 92.43% simple radiographs and 10.72% magnetic resonances. We requested: 7.2% MRI (54), 7.8% X-Ray (58), 7.1% Ultrasound (53), 5% Analysis,³⁷ 4.2% neurophysiological study,³¹ 1.2% scintigraphy.⁹ Discharged at the first consultation 72.4% and at the second visit 5%, leaving 22.6% of patients still in follow-up. 23.1% of the patients were referred to another specialty, mainly to Traumatology (15.3%). During the same period of time, October-December 2016, Traumatology treated 3730 patients and requested 506 MRI (13.5%).

Conclusions: The management of an locomotor apparatus clinic carried out by rheumatologists is more efficient: high resolution capacity in the first consultation, less number of complementary tests requested, mainly MRI (7.2% vs. 13.5%), and little referral to other specialties. It is necessary to create referral protocols from Primary Care to Rheumatology and to enhance the Rheumatology as the medical specialty of reference of the locomotor apparatus musculoskeletal diseases.

REFERENCES:

- [1] Gómez Rodríguez N, Ibáñez Ruán J, Penelas-Cortés Bellas Y, García Ferreiro T. Comparative analysis of the out patient consultories of rheumatology and orthopedic surgery-traumatology in a Galician health care area. *Rev Esp Reumatol* 2001;28:52–6.
- [2] Comité de Estrategias de la Sociedad Española de Reumatología. Reflexiones sobre la realidad de la especialidad y líneas de acción futura. *Rev Esp Reumatol* 1994;21:205–13.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5837

THU0642

LIVING IN IMMIGRANT COMMUNITIES DOES NOT IMPACT TOTAL KNEE ARTHROPLASTY OUTCOMES: EXPERIENCE FROM A HIGH-VOLUME CENTRE IN THE UNITED STATES

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Background: Social factors affect TKA outcomes in osteoarthritis, both at the individual and neighbourhood level.¹ However, prior studies have not evaluated the influence of the proportion of immigrants within a neighbourhood, as reported for other high-volume and high-cost procedures.²

Objectives: Our objective was to determine the association of neighbourhood immigrant proportion (IP) on Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) pain and function scores at baseline and 2 years after elective TKA, and to examine if this is different between sexes.

Methods: Individual patient-level variables were obtained from a single institution TKA registry between May 2007 and February 2011, including demographics, baseline and 2 year WOMAC pain and function (0–100; 100 best), and geocodable US addresses. We only included patients living in the tri-state area - i.e. New York, Connecticut and New Jersey which is the catchment area for the hospital. Individual patient level variables were then linked to US Census Bureau data at the census tract level. Data was analysed using univariate and multivariable linear mixed effects models, with census tracts variables treated as random effects. A separate linear mixed-effects model was used to assess the interaction between neighbourhood IP and gender.

Results: Table 1 describes the 3,898 TKA cases analysed. In multivariable analyses, patients from neighbourhoods with low IP (<10%) had slightly higher baseline and 2 year WOMAC pain and function scores than those with high IP ($\geq 40\%$), but these differences were not statistically significant (table 2). While women had

worse baseline and 2 year WOMAC pain and function scores (all $p \leq 0.04$), this difference was not significantly influenced by neighbourhood IP (all $p_{\text{interaction}} \text{ NS}$).

Abstract THU0642 – Table 1. Baseline characteristics

Characteristic	IP* <10% (n=1032)	IP* ≥ 10 - <40% (n=2527)	IP* $\geq 40\%$ (n=339)	p-value ($\leq 10\%$ v. $\geq 40\%$)
Patient demographics				
Age at surgery (years), mean $\pm$ SD	67.0 $\pm$ 9.2	68.1 $\pm$ 9.6	67.3 $\pm$ 9.6	0.16
Sex: female, n (%)	568 (55.0%)	1338 (52.9%)	240 (70.8%)	<0.001
BMI (kg/m ²), mean $\pm$ SD	30.1 $\pm$ 5.7	29.9 $\pm$ 6.0	31.0 $\pm$ 6.6	0.03
Race, n (%)				<0.001
White	1012 (98.1%)	2297 (90.9%)	259 (76.4%)	
Black	5 (0.5%)	128 (5.1%)	41 (12.1%)	
Asian	9 (0.9%)	47 (1.9%)	18 (5.3%)	
Other	5 (0.5%)	35 (1.4%)	16 (4.7%)	
Unknown	1 (0.1%)	20 (0.8%)	5 (1.5%)	
Ethnicity, n (%)				<0.001
Hispanic	5 (0.5%)	35 (1.4%)	16 (4.7%)	
Patient status				
ASA class				0.81
I–II	828 (80.2%)	2026 (80.2%)	270 (79.7%)	
III–IV	203 (19.7%)	501 (19.8%)	69 (20.4%)	
One or more comorbidities	267 (25.9%)	674 (26.7%)	116 (34.2%)	0.003
Sociodemographic characteristics				
Education level (highest), n (%)				<0.001
Some high school, high school graduate or some college	359 (36.0%)	849 (35.1%)	158 (49.4%)	
College graduate or Masters, professional or doctorate degree	639 (64.6%)	1569 (64.9%)	162 (50.6%)	
Lives alone, n (%)				<0.001
No	863 (84.4%)	1881 (75.9%)	229 (69.0%)	
Yes	159 (15.6%)	598 (24.1%)	103 (31.0%)	
Census tract characteristics				
Poverty, n (%)				<0.001
< 10%	975 (94.5%)	2078 (82.2%)	122 (36.0%)	
10% – < 20%	48 (4.7%)	300 (11.9%)	163 (48.1%)	
$\geq 20\%$	9 (0.9%)	149 (5.9%)	54 (15.9%)	
Patient-reported outcomes				
Baseline survey results, mean $\pm$ SD				
WOMAC** pain	54.9 $\pm$ 17.6	54.7 $\pm$ 17.3	51.0 $\pm$ 18.9	<0.001
WOMAC** function	54.2 $\pm$ 16.9	54.1 $\pm$ 17.7	49.1 $\pm$ 17.3	<0.001
2-year survey results				
WOMAC** pain, mean $\pm$ SD	89.3 $\pm$ 14.7	87.5 $\pm$ 15.7	86.5 $\pm$ 17.5	0.01
WOMAC** function, mean $\pm$ SD	86.7 $\pm$ 14.9	85.4 $\pm$ 16.2	83.6 $\pm$ 17.9	0.005

*IP – Immigrant Proportion, **WOMAC – Western Ontario and McMaster Universities Osteoarthritis Index

Timepoint	WOMAC** pain estimate $\pm$ SD	p-value	WOMAC** function estimate $\pm$ SD	p-value
Baseline		0.36		0.24
IP* $\geq 10\%$	52.30 $\pm$ 3.26		51.71 $\pm$ 3.28	
IP* $\geq 40\%$	51.19 $\pm$ 3.33		50.31 $\pm$ 3.36	
2-year		0.80		0.97
IP* $\geq 10\%$	85.08 $\pm$ 3.02		85.95 $\pm$ 3.11	
IP* $\geq 40\%$	84.81 $\pm$ 3.09		85.90 $\pm$ 3.18	

*IP – Immigrant proportion, **WOMAC – Western Ontario and McMaster Universities Osteoarthritis Index

Table 2 Impact of neighbourhood immigrant proportion (IP) on WOMAC pain and function.

Conclusions: Patients coming from high (>40%) IP neighbourhoods present with worse baseline pain and function. Two years later, worse pain and function persist; however, the difference is not significant. Although sex differences favouring males are notable, these differences are not associated with IP. Social factor contributions to healthcare disparities are multidimensional, and future studies examining immigration-related neighbourhood characteristics may be warranted.

REFERENCES:

- [1] Goodman SM, et al. Disparities in TKA Outcomes... *Clin Orthop Relat Res* 2016.
- [2] Mojica CM, et al. The Relationship between Neighborhood Immigrant Composition... *Biomed Res Int* 2015;460181.

Disclosure of Interest: B. Mehta: None declared, J. Szymonifka: None declared, S. Dey: None declared, I. Navarro-Millan: None declared, S. Grassia: None declared, L. Mandl Grant/research support from: Boehringer-Ingelheim, A. Bass Grant/research support from: Abbott, Pfizer, L. Russell: None declared, M. Parks Grant/research support from: Zimmer, Consultant for: Zimmer, M. Figgie Shareholder of: Mekanika, Y.-Y. Lee: None declared, J. Nguyen: None declared, S. Goodman: None declared

DOI: 10.1136/annrheumdis-2018-eular.2354

THU0643

IMPACT OF SHOULDER ULTRASOUND IN QUALITY OF CARE INDICATORS IN PATIENTS WITH RECENT ONSET OF PAIN

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Background: Ultrasound is a technique that has demonstrated diagnostic accuracy in the periarthral pathology of the shoulder. Although its value is not questioned, any diagnostic or therapeutic instrument must also demonstrate a beneficial impact for the patient in terms of quality of care. The quality of care can be measured by direct indicators (satisfaction surveys, waiting times) or indirect ones (referral rate, need for new consultations). We do not have studies that measure the impact of ultrasound in the assessment of hyperacute shoulder pain or of recent onset (less than a week) pain.

Objectives: Our purpose is to determine to what extent its use modifies three indicators of quality of care in relation to hyperacute omalgia of non-traumatic origin.