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THU0579 HYPOCOMPLEMENTEMIA IS RELATED TO ELEVATED SERUM LEVELS OF IGG SUBCLASSES OTHER THAN IGG4 IN IGG4-RELATED KIDNEY DISEASE

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Background: IgG4-related kidney disease (IgG4-RKD) is a comprehensive term for renal lesions associated with IgG4-related disease [1]. IgG4-RKD is frequently complicated by hypocomplementemia [1, 2, 3], but its clinical significance and mechanisms have not been clarified.

Objectives: This study aimed to investigate clinical features of IgG4-RKD patients with hypocomplementemia compared with those without it, leading to clarification of the clinical significance and mechanisms of hypocomplementemia.

Methods: We extracted 25 patients with IgG4-RKD between September 2005 and December 2016 in our hospital. Based on the presence/absence of hypocomplementemia at diagnosis, we divided them into a hypocomplementemia group (n=11) and normal complement group (n=14), and retrospectively analyzed various clinical features (age, sex, serum IgG levels, serum IgG4 levels, gaps between serum IgG and IgG4 level, ratio of serum IgG to serum IgG4, serum IgG subclasses, serum IgE levels, serum creatinine levels, urinary protein and urinary occult blood, urinary β 2-microglobulin, urinary N-acetyl- β -D-glucosaminidase, initial dose of prednisolone, serum IL-2R levels, multiple organ lesion) during the clinical course in the two groups.

Results: The patients comprised 18 men and 7 women with an average age of 67.5 years (range, 44 to 81 years). Serum IgG levels (3971 ± 729 mg/dL vs. 2157 ± 598 mg/dL; $p < 0.001$), gaps between serum IgG and IgG4 level (2992 ± 770 mg/dL vs. 1482 ± 444 mg/dL; $p < 0.001$), serum IgG1 levels (2043 ± 1025 mg/dL vs. 891 ± 209 mg/dL; $p = 0.017$), and the number of involved organs (4.1 ± 1.1 vs. 2.9 ± 1.1 ; $p = 0.018$) were significantly different between the two groups, while serum IgG4 levels (979 ± 477 mg/dL vs. 791 ± 575 mg/dL; $p = 0.298$) and serum creatinine levels (1.96 ± 1.89 mg/dL vs. 1.09 ± 0.48 mg/dL; $p = 0.298$) were not. At relapse of renal lesions, although both groups showed serum IgG4 re-elevation, the hypocomplementemia group showed exacerbation of hypocomplementemia and re-expansion of gaps between serum IgG and IgG4 level, while the normal complement group did not.

Conclusions: Hypocomplementemia may be associated with multiple organ involvement and elevation of IgG subclasses other than IgG4 including IgG1 in IgG4-RKD. In patients who initially show hypocomplementemia, a decline in serum complement levels implies renal lesion relapse.

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THURSDAY, 15 JUNE 2017

Education

THU0580 WHAT ARE THE PATIENTS' ISSUES AND NEEDS RELATED TO THEIR BIOLOGICS (BDMARDS) AND METHOTREXATE (MTX) TREATMENT IN DAILY LIFE: A QUANTITATIVE CROSS-SECTIONAL SURVEY AMONG 344 PATIENTS TO DEVELOP AN EDUCATIONAL SMARTPHONE APP

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Background: MTX and bDMARDs are the core treatments of chronic inflammatory

arthritis (IA). We lack information on the patients' problems and needs in daily life, particularly on safety issues.

Objectives: 1-collect the most frequent issues 2-explore the patients' perceptions on a dedicated smartphone application (SP App) 3) determine the profile of the patients interested.

Methods: The survey was conducted on line. The questionnaire was designed by rheumatologists, methodologists, anthropologists, members of patients association (AP) and included 1-a non-exhaustive list of potential issues in daily life (fever, vaccines, ...) and practical aspects 2-a list of potential use of the App 3-free opinions 4- Two self-administrated questionnaire to test patients' knowledge on bDMARDs [1] and MTX [2].

Results: The survey was carried out from June to August 2016 on the websites of the PA. Non-associative patients were recruited by 3 rheumatologists who provided the Internet link. 344 patients responded, 331 analyzed, 83% female, 50% had rheumatoid arthritis, 40% had spondyloarthritis, mean age 53 years, 60% were AP; 67% were treated with MTX, 70% had bDMARDs, 34% had MTX-bDMARDs combination.

66% of patients reported problems; 67% had needed help or advice. The main issues were infections (27%), vaccines (13%), surgery (10%), dental care (7%), self-administration (6%), conservation/travelling (9%) and skipped doses (5%). Among the 76% patients who have a SP, 80% use Apps and 32% Apps for their health. Among users, 87% patients would find an App useful to manage their treatment (36% rather agree and 51% strongly agree), 82% for symptoms requiring to stop their treatment, 93% for situations related to safety, 80% as a reminder of their treatment, 80% to know what to do in case of a skipped dose, 77% to have a safety checklist before treatment administration, 66% to recall the modalities of self-injections. Patients interested in the App are younger ($p < 0.05$) non-associative ($p < 0.05$) and live in medium-sized cities ($p < 0.01$). No correlation was found with other sociodemographic characteristics, level of education, type/duration of arthritis or knowledge.

Conclusions: Two-third of patients with arthritis face issues related to their treatment especially in case of infections, vaccination, surgery and travelling. A dedicated App is considered useful by 87% patients who already have a SP. The potential use of the App may improve safety, adherence and self-management in daily life.

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THU0581 WHAT WE SEE, WHAT WE LEARN, AND THE PREVALENCE OF RHEUMATIC DISEASES IN OUR POPULATION: A DIAGNOSIS CORRELATION STUDY

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Background: The postgraduate program in rheumatology aims learning of musculoskeletal and autoimmune disorders. In México, objectively-structured clinical examination (OSCE) is applied in postgraduate certification processes by the Mexican Board of Rheumatology annually [1]. Peláez-Ballester et al. described an epidemiological study (COPCORD, Community Oriented Program for the Control of Rheumatic Diseases) of 19,213 individuals in 5 regions in our country where they found a prevalence of musculoskeletal pain in 25.5%, osteoarthritis in 10.5%, back pain in 5.8%, rheumatic regional pain syndromes in 3.8%, rheumatoid arthritis (RA) in 1.6%, and fibromyalgia in 0.7% [2].

Objectives: The aim of the study is to describe the student training in rheumatic diseases and correlate them with OSCE assessment and the prevalence of rheumatic diseases in our population.

Methods: An observational and analytical study was made between March 2014 to March 2015 in a single rheumatology training center at University Hospital. Student training was defined according to the times they evaluated patients with a determined diagnosis, this information was obtained by medical records. We categorized OSCE questions according to the rheumatic diagnosis. Finally, the two results were compared with prevalence of the rheumatic diagnosis according to COPCORD, which were registered according a score pain > 4 . We made descriptive statistics and a Spearman's Rho to evaluate the correlations of the diagnosis frequencies by each category.

Results: We reviewed 6279 medical records, 854 (13.6%) were of first-time evaluation. We had 5,400 (86.4%) women, with a mean age of 47.9 (SD 15.45) years.

Descriptive statistics are in Table 1 and Figure 1, which included: medical consultations, OSCE assessment and a column with rheumatologic diagnosis according to COPCORD.

The Spearman correlation coefficients of the 32 different diagnoses were: student training vs OSCE 0.492 ($p = 0.004$), student training vs COPCORD 0.597 ($p = 0.01$) and OSCE vs COPCORD 0.624 ($p = 0.01$).

Conclusions: Although the most common musculoskeletal disease in our community did not obtain the frequency observed by students or evaluated in

Table 1

| | Resident | | MRC | | COPCORD | |
|----------------------|----------|-------|-----|-------|---------|-------|
| | n | % | n | % | n | % |
| RA | 1776 | 28,28 | 35 | 15,28 | 307 | 5,93 |
| OA | 1061 | 16,90 | 9 | 3,93 | 2017 | 38,98 |
| SLE | 800 | 12,74 | 27 | 11,79 | 13 | 0,25 |
| Soft tissue | 554 | 8,82 | 10 | 4,37 | 2230 | 43,10 |
| FM | 476 | 7,58 | 5 | 2,18 | 0 | 0,00 |
| Sjögren S | 357 | 5,69 | 7 | 3,06 | 0 | 0,00 |
| Osteoporosis | 307 | 4,89 | 5 | 2,18 | 0 | 0,00 |
| SSc | 170 | 2,71 | 11 | 4,80 | 4 | 0,08 |
| APS | 111 | 1,77 | 10 | 4,37 | 0 | 0,00 |
| Spondyloarthritis | 111 | 1,77 | 5 | 2,18 | 27 | 0,52 |
| Miositis | 99 | 1,58 | 10 | 4,37 | 0 | 0,00 |
| Juvenile Arthritis | 87 | 1,39 | 3 | 1,31 | 0 | 0,00 |
| PsA | 86 | 1,37 | 5 | 2,18 | 0 | 0,00 |
| Vasculitis ANCA | 79 | 1,26 | 5 | 2,18 | 0 | 0,00 |
| Raynaud | 61 | 0,97 | 5 | 2,18 | 0 | 0,00 |
| Crystal arthropaties | 58 | 0,92 | 15 | 6,55 | 576 | 11,13 |
| Connective tissue | 45 | 0,72 | 0 | 0,00 | 0 | 0,00 |

the OSCE, we observed a moderate correlation. We considered it is important to enhance the knowledge and improve the OSCE according to the most prevalent diseases to prepare the future rheumatologists.

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THU0582 2-YEAR ADHERENCE TO THE TREATMENT OF OSTEOPOROSIS FOLLOWING A THERAPEUTIC PATIENT EDUCATION PROGRAM

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Background: The management of osteoporosis requires drug treatment and changes in lifestyle. Adherence to medication does not exceed 50% at one year. Changes in lifestyle are rarely explored. Therapeutic requires a relay to continue the follow-up over several years

Objectives: To improve the follow-up of the patient, we have created cooperation between the attending physician and the pharmacy pharmacist initiated by the patient himself

Methods: We proposed a therapeutic patient education for patients treated for osteoporosis to participate in two half-day ETP sessions a year apart. Educational objectives are: The treatment of osteoporosis requires at least 5 years of treatment, and must be associated with the absorption of three dairy products per day, maintaining physical activity and preventing falls. Each patient participating in a therapeutic education session receives a follow-up notebook containing six doctor questionnaires and six pharmacist questionnaires. The patient remains the owner of the notebook. We were able to study the results of the 2-year questionnaires for 72 patients included in 2013 and 2014.

Results: 53/72 patients continue their treatment at 2 years. 4 patients died, 1 had an atypical fracture of the femoral shaft, 6 stopped treatment due to dental treatment, 3 had contraindications to any anti-osteoporotic treatment, 1 decided to discontinue treatment due to d Multiple Sclerosis, 11 decided to leave the program. 3 patients were lost to follow-up, ie 14/72 patients of whom we no longer have any news. Of the 53 patients who continued treatment, 24 sent back a doctor and pharmacist questionnaire to 2 years. 4 doctors and 2 pharmacists refused to complete the questionnaires. The study of pharmacist questionnaires received at 2 years shows that 83% of patients continue to consume 3 dairy products per day compared to 73% at 6 months, 65% maintained physical activity, 17% improved it, 9% decreased. The ground balance was satisfactory for 78% of patients compared with 71% at 6 months. 71% never forget their treatment, compared with 69% at 6 months. 8% wanted to stop their treatment, stable figure compared to questionnaires received at 6 months. All patients knew what their treatment was for at one year and 96% met the conditions for taking the medication. 69% do not forget it at two years against 86% at one year, thanks to the intervention of the pharmacist. Only 6% wanted to stop the treatment at two years due to side effects, 17% to 1 year, but did not stop after consultation with the doctor and/or pharmacist.

During the two-year follow-up, all patients were phone called at least once by a secretary, mostly several times. The notebook is driven by the patient himself, many of them report to the nurse that it give them an active role which afford them to continue the treatment

Conclusions: 58% of the patients enrolled continue treatment at two years, 15% have stopped the treatment as a side effect. An active role given to the patient and a collaboration between physicians and pharmacists thus promote adherence to treatment and also changes in lifestyle

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THU0583 EFFECT OF AN ONLINE EDUCATIONAL INTERVENTION IN THE KNOWLEDGE OF PATIENT REGISTRIES AND PATIENT-REPORTED OUTCOMES AMONG RHEUMATOLOGISTS

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Background: Patient-reported outcomes (PROs) have evolved into an essential element in managing rheumatoid arthritis (RA), working in concert with physician-based tools to assess disease activity and health-related quality of life [1].

Objectives: A study was conducted to determine whether an online educational intervention could effectively address a knowledge gap and an underlying educational need in applying data from patient registries including PROs in the management of patients with RA.

Methods: An online educational intervention focusing on advances in RA patient registries was developed and made available online. The intervention consisted of a 30-minute video-based roundtable discussion between 3 experts in treatment of RA. The intended audience was rheumatologists who treat patients with RA. The educational impact was assessed by comparing participants' responses to 4 identical paired pre- and post-assessment questions. Data representing a statistical sampling of the overall learner population was collected from 5/29/2015 through 8/13/2015. Statistical analysis comprised a paired (within-physician) 2-tailed t-test comparing mean pre-intervention and post-intervention scores, McNemar's χ^2 statistic for measuring changes in responses to individual. Cramer's V determined the overall effect of the intervention.

Results: Analysis of pre- versus post-activity responses by rheumatologists (n=36) demonstrated a significant improvement ($P<0.05$) in overall knowledge with a robust effect size ($V=0.339$). This activity resulted in increased knowledge surrounding several specific areas of RA management, such as drug safety, alternative means of collecting PRO data, and issues surrounding pregnancy in women with RA. The absolute percentage increases in correct individual responses to these topics (all $P<0.05$ except where noted), included:

- 33% increase (36% vs. 69%) in rheumatologists who recognized the results from pooled registries in Europe – 11 registries from 9 countries – regarding the safety of tumor necrosis factor-alpha inhibitor therapy,
- 28% increase (36% vs 64%) in rheumatologists who recognized that biosensor-based devices can provide passive data regarding patient outcomes,
- 14% increase (47% vs 61%, $P=.237$) in rheumatologists who identified the connected CORONA-OTIS registries that provide information on patients with RA who become pregnant,
- 62% increase (19% vs 81%) in rheumatologists who identified that patient registry data can be used to support a risk mitigation strategy for prescribing a specific DMARD in patients who may become pregnant during therapy.

Conclusions: An online educational intervention was associated with significant improvement in knowledge levels of rheumatologists in several important aspects of RA management, including interpretation of data from patient registries and adverse effect profiles of approved therapies. Future directions for education include additional reinforcement regarding the roles for PROs in patient management, and assessing the impact of improved rheumatologists' knowledge on care delivery and patient outcomes.

References:

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THU0584 FIVE YEARS OF EXPERIENCE WITH THE LUPUS ACADEMY: AN EFFECTIVE MODEL FOR BUILDING A ROBUST COMMUNITY OF PRACTICE FOR GEOGRAPHICALLY DIVERSE LEARNERS

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Background: Systemic lupus erythematosus (SLE) is a complex yet low prevalence disease. Without a community of lupus specialists to establish consensus and guide best practices, rheumatologists have limited opportunities to develop skills and maintain competence in SLE care.

Objectives: The objectives of this initiative were to 1) create an independent community of physicians interested in the pathogenesis, diagnosis, and management of patients with SLE and related conditions; 2) share insights and practical guidance for implementing evidence-based care; 3) develop needs-driven contin-