SIGNIFICANCE OF OCCULT INFECTIONS IN INFLAMMATORY ARTHRITIS PATIENTS RECEIVING BIOLOGIC THERAPIES IN EAST LONDON


Background: Chronic hepatitis B virus (HBV) infection remains a significant global health problem. In high endemic areas like African and Asian countries, most infections occur from vertical transmission, whilst in western countries HBV is primarily acquired in adulthood. Either way, HBV can persist in infected hepatocytes lifelong, even if undetectable in the serum, allowing reactivation during immunosuppression. HBsAg carriers, those with detectable HBV viral load, or receiving concomitant corticosteroids are at greater risk. Most guidelines recommend screening for occult infections prior to starting biologic treatment including treatment with TNF-inhibitors, HCV, HIV and HBV infection.

Objectives: This study was carried out to estimate the prevalence of occult infections, particularly chronic HBV, in an East London rheumatology population receiving biologic therapies, and to evaluate the rate of HBV reactivation after starting treatment.

Methods: Inflammatory arthritis patients starting biologic therapies in Barts Health NHS Trust between August 2014 and August 2017 were identified from databases of Whipps Cross and Mile End Hospitals. Health records were reviewed focusing on HBV core antibody (HbcAb), HBV surface antigen (HBsAg), HBV DNA, HCV and HIV antibody status. Latent TB tests included IGRA and ELI-Spot assays.

Results: 757 patients were included in the study. Of those, 51 (6.7%) were positive for HBsAg. Of them, 5 (6.7%) were HBcAb positive and two patients had low level HBV viremia with detectable DNA antibody at baseline. 61% (n=31) of those had HbcAb positive patients were female, whilst 39% (n=20) were male, with median age of 58 years (IQR, 43–65). The ethnic distribution was the following: 43% asian (n=22; Bangladesh or Pakistani), 29% african or Afro-caribbean black (n=15), and 18% white caucasian (n=9). The underlying rheumatological conditions included rheumatoid arthritis (59%), ankylosing spondylitis (33%) and psoriatic arthritis (8%). Fifteen patients (29%) received concomitant prophylactic anti-viral therapies (lamivudine, entecavir or tenofovir). After commencing biologic therapies, no HBV reactivation was noted in the HbcAb positive cohort. Intermittent mild transaminases were detected on monitoring blood tests in 22% (n=11). The rate of latent TB infection was 11.5%; HCV IgG was detected in 3 patients, whilst HIV infection was absent in our cohort.

Conclusions: Approximately 50% of the patient population of Barts Health NHS Trust is coming from minority ethnic groups. Likely because of the diversity of the population, the prevalence of chronic HBV infection (HBsAg and HbcAb positives) in our East London rheumatology population receiving biologic therapies was higher than the national average (0.6% vs. 0.3%, respectively). No HBV reactivation was observed in the follow up period indicating that the risk of reactivation is relatively low. Nevertheless, for patients with evidence of previous infection (HbcAb positive) careful surveillance continue to be recommended.

Disclosure of Interest: None declared


GENETICALLY PREDISPOSITION AND PRO-INFLAMMATORY DYSREGULATIONS – CONNECTING RHEUMATOID ARTHRITIS AND MENTAL DISORDERS

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Background: Depressive and anxiety disorders are reported as the more prevalent psychiatric comorbidities in chronic inflammatory diseases and their occurrence has been correlated with higher serum levels of cytokines and chemokines (IL-6, IL-1, IL-12, IL-18, TNF-α, and even TNF-R1 and TNF-RII). Some single nucleotide polymorphisms (SNPs) in TNF-α gene have been found to play a common part in pro-inflammatory alterations in patients with rheumatoid arthritis (RA) and the incipient depressive symptom. Either way, the relationship is not clear yet.

Objectives: To investigate the possible influence of four single-nucleotide polymorphism in the tumour necrosis factor receptor II (TNFRII) genes and development of psychiatric disorders in patients with active RA. The second aim was to evaluate some correlation between these SNPs, the level of four chemokines and the incidence of mental disorders.

Methods: We included 89 Caucasian patients with active RA treated in a tertiary Department of Rheumatology from Cluj-Napoca. All demographic, clinical, and biological data and RA comorbidities were completed. The presence of depressions or anxiety was confirmed at the baseline by psychiatrist. Four potentially functional SNPs within TNFRSF1B (rs1061621, rs1062624, rs1061831, rs3397) were selected to be genotyped in all patients using PCR (KASPar) asSAsyS (KBIosciences, Hoddesdon, Hertfordshire, UK) at the Centre for Genomics and Oncological Research (GENYO), Granada, Spain. Plasmatic levels of soluble tumour necrosis factor receptor II (sTNFRII), interleukin (IL)–6, monocyte chemotactic protein (MCP)–1 and vascular endothelial growth factor (VEGF) was quantified using cytofluorometry-based ELIAS technique in accordance with manufacturer’s instructions using FlowCytomix kit (eBioscience, UAS) at Instituto Maimonides de Investigacion Biomedica de Cordoba – Reina Sofia Hospital, Spain.

Results: According to DAS28 (CRP) all the patient have active arthritis (5.87 ±0.6) with median disease duration of 9 (4–14) years. Most of the patients were diagnosed with depression (n=33), 84.8% were female. Anxiety was present at 21 subjects (80.9%) female. In 3 cases these two mental disorders coexist.

In a subgroup with depression the polymorphism rs1061831 (GG) was significantly associated with increased level of VEGF (p=0.007). A significant correlation was also found between the polymorphism rs3397 (CC/TT) and MCP-1 level (p=0.01).

In a subgroup with anxiety the significant association was found between the polymorphism rs1061831 (GG) and the level of MCP-1 (p=0.04).

Conclusions: Pro-inflammatory dysregulation might be particularly relevant in some patients with RA and psychiatric illness. Amongst genetic factors that influence the susceptibility to the development of RA and psychiatric disorders some single nucleotide polymorphisms (SNPs) in TNF-α gene have been considered with increasing interest. Further investigation in a larger cohort is needed.

Disclosure of Interest: None declared


FACTORS OF THE POSITIVE OR NEGATIVE ANSWER ON THERAPY WITH DENOSUMAB IN WOMEN WITH RHEUMATOID ARTHRITIS AND OSTEOPOROSIS

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Objectives: To define a contribution of factors: anamnesis, clinical/laboratory markers, glucocorticoids (GC) intake, etc. on the response to therapy with denosumab (DENO) or alendronate (ALN) in osteoporosis (OP).

Methods: 66 postmenopausal women (mean age 59,6±7,4) with RA (mean duration 17,7±10,4 years) and OP received s/c denosumab 60 mg every 6 months pro m 10.1136/annrheumdis-2018-eular.6451duction to the response to therapy with ALN. The Statistica 6.0 was used.

Results of analysis of influence of statistically significant factors on the response to therapy is associated with RF-positivity (p=0,02), the negative test on GnRH analogue (p=0,034) and the production of testosterone (p=0,034). The Statistica 6.0 was used.

Results: Results of analysis of frequency of statistically significant factors on the response to therapy in BMD showed that the negative response in L1-L4 is associated with GC intake (>3 months in anamnesis) (p=0,034) and the beginning of GC intake after menopause onset (p=0,023). In HN positive response is associated with higher concentration of the RF (initially and in dynamics) (p<0,05) and the beginning of menopause later than RA onset (p=0,024), the negative response – with GC intake (>3 months in anamnesis) (p=0,024). In DF positive response on therapy is associated with RF-positivity (p=0,02), the negative response back correlates with bone alkaline phosphatase (BAP) base level (p<0,05). A significant correlation was also found between the polymorphism rs3397 (CC/TT) and MCP-1 level (p<0,01).

In table 1 it is shown the most significant factors, which influence on SVH score dynamics (increase) after 12 months of denosumab therapy.

Abstract AB0354 – Table 1. the factors which influence on SVH score increase (n=66), p<0,05.

SVH score | The score increase is associated with
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Erosion score | lower BMD in L1-L4 (at baseline and after treatment)
 | higher cumulative GC dose
 | back correlates with BMD increase in DF
 | back correlates with bone alkaline phosphatase (BAP) base level
 | correlates with increase in JSN
Joint space narrowing score (JSN) | presence at patients in anamnesis a surgical menopause
 | correlates with increase in erosion score and total SVH score: r=−0360 (p<0,05).

THE RELATIONSHIP BETWEEN HAND PREHENSILE STRENGTH, CLINICAL ACTIVITY AND FUNCTIONAL CAPACITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: The hand is an anatomical structure with a large number of joints; its prehensile grasp capability constitutes a highly specialised biomechanical function. In rheumatoid arthritis (RA), the structures of the joint are damaged by the characteristic inflammatory process. The Disease Activity Score (DAS28) considers twenty hand joints in the evaluation of rheumatoid arthritis (RA). While the Health Assessment Questionnaire (HAQ) disability index (DI) (HAQ-DI) is the most frequently used instrument for measuring self-reported physical function in rheumatoid arthritis and considers the ability to dress and groom, get up, eat, hygiene, reach, grasp, situations in which the functional capability of the hand is crucial.

Objectives: To assess the relationship between hand prehensile strength, the DAS28 index and HAQ-DI score in patients with diagnosis of RA.

Methods: The prehensile strength was obtained by the dynamometry method from 105 AP patients, the maximum strength levels in the dominant and non-dominant hand were considered. The Disease Activity Score in 28 joints using the erythrocyte sedimentation rate (DAS28-ESR) and HAQ-DI were recorded.

Results: The maximum prehensile strength, on average, was 14 kg, and the weak force category was more prevalent. The prehensile strength of both hands was negatively correlated with the HAQ-DI score and DAS28 index. In an adjusted logistic regression model, the “weak” strength category of the non-dominant hand was associated with "moderate clinical activity" in the DAS28 score (OR=8.59, p=0.02), while the category of “weak” strength of the dominant hand was associated with the presence of “some difficulty” of HAQ-DI score (OR=4.75, p=0.10).

Conclusions: The decrease in prehensile strength represents a marker associated with the DAS28 index and HAQ-DI score in the patient with RA, regardless of age, muscle mass, total fat or body mass. The measurement of the prehensile strength can be a useful and inexpensive tool to be considered in the clinical evaluation of the RA.

REFERENCES:

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Conclusion: This study is the formative work to help design a patient-centred intervention for a CVD risk reduction program for patients with IA.

Methods: We conducted a qualitative study guided by Bandura’s Social Cognitive Theory, placing special focus on knowledge about the relationship between arthritis and CVD as well as barriers and facilitators to receiving healthcare related to CVD risk such as screening and management for hyperlipidemia. Participants had to have either RA, PsA or AS and were recruited from a single academic centre. Data were analysed thematically.

Results: We conducted three focus groups with a total of 17 participants. Mean age of participants was 56 (SD: ±7.7) years: 15 were women; 3 were on a statin; and 1 previously had a stroke. The majority of the participants were Five themes emerged: 1) Need for more information about IA and medications; 2) Lack of education about CVD risk and IA; 3) CVD risk reduction as an integrated lifestyle modification; 4) Uses for peer support around relevant CVD risk factor mitigation approaches; and 5) Improving doctor-patient communication about RA. The themes that emerged in our study showed that the majority of these IA patients were not aware of the relationship between CVD and IA, and were very interested in learning about IA, medication side effects, and prognosis of IA. These participants wanted to learn first about IA and, as a secondary goal, learn about their CVD risk in the context of their IA rather than as a new condition.

Conclusions: Providing a clear understanding about systemic effects of IA and how to treat it will be needed before focusing on CVD risk reduction. By doing so, there will be better opportunity for the CVD risk reduction program to succeed.

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THE SUPPORT OF MEDICAL CLERKS IN RHEUMATIC DISEASE CLINIC AIDS T2T PRACTICE FOR RHEUMATOLOGISTS AND IMPROVES DISEASE ACTIVITIES OF PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: With treat-to-target (T2T), the physician always has to evaluate disease activity and joint damage of rheumatoid arthritis (RA) patients exactly to maintain the activities of daily living of the patient for the long term. However, the amount of work required by physicians to complete T2T can be onerous, so the cooperation of medical staff is necessary to practice T2T.

Objectives: The purpose of this study is to clarify the role and effectiveness of medical clerks (MCs) in a rheumatic disease clinic.

Methods: In our rheumatic disease clinic, MCs have supported rheumatologists since April 2011. We individually evaluated 50 RA patients in May 2010 (before MC support; “preceding period”), April 2011 (1 year after the start of MC support; “early period”), April 2013 (3 years after the start of MC support; “middle period”), April 2015 (5 years after the start of MC support; “late period”) and April 2017 (7 years after the start of MC support; “last period”). We assessed the prevalence of T2T practice, disease activity, and drug use. When all components of the Simplified Disease Activity Index (SDAI) of patients had been listed in the medical record and radiography of hand and foot joints had been undertaken more than once a year, the medical examination was defined as “T2T practice”. Disease activity was assessed using the SDAI and Clinical Disease Activity Index (CDAI).

Results: Prevalence of T2T practice was 50%, 86%, 94%, 100% and 100% at preceding, early, middle, late and last periods, respectively. Prevalence of T2T practice increased after the start of MC support. Accordingly, disease activities improved gradually. SDAI remission was 30.8% in the preceding period, 28.5% in the early period, 30% in the middle period, 58% in the late period and 56% in the last period, respectively. CDAI remission improved towards the last phase, similar to that seen with the SDAI. The mean dose of methotrexate (MTX) increased gradually towards the last phase, but the prevalence of MTX use did not show a remarkable change. Prevalence of use of biological disease-modifying anti-rheumatic drugs did not increase during the study period.

Conclusions: MC support in rheumatic disease clinics aids T2T practice for rheumatologists. The disease activities of RA patients can be improved by MC support.

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