THU0675
ASSOCIATION OF GLUCOSE HOMEOSTASIS MEASURES AND METABOLIC SYNDROME WITH KNEE CARTILAGE DEFECTS AND CARTILAGE VOLUME IN YOUNG ADULTS
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Background: Diabetes mellitus and knee osteoarthritis (OA) are commonly coexisting, and metabolic syndrome (MetS) shared many pathways on knee cartilage in young adults were unknown. Insulin resistance was associated with higher risk of tibiofemoral cartilage defects amongst young adults. MetS was not associated with patellar cartilage defects. This study aimed to determine the association of glucose homeostasis measures and MetS measures with knee cartilage defects and cartilage volume in young adults.

Objectives: To describe the associations of glucose homeostasis measures and MetS measures with knee cartilage defects and cartilage volume in young adults.

Methods: Australian young adults from the Childhood Determinants of Adult Health Study were selected to undergo knee magnetic resonance imaging (MRI) scans during 2008-2010 (aged 31-41 years). Fasting blood sample, waist circumference and blood pressure measures were collected during 2004-2006 (aged 26-36 years). Glucose, insulin, triglyceride and high-density lipoprotein cholesterol (HDL-C) were measured using serum samples. Homeostatic model assessment 2-insulin resistance (HOMA2-IR), HOMA2-beta cell function (HOMA2-beta), HOMA2-insulin sensitivity (HOMA-S) were calculated using HOMA2 calculator (version 2.2.3 available from http://www.dtu.ox.ac.uk/homacalculator) according to fasting glucose and fasting insulin. MetS was defined when at least three of the following five components were present: high waist circumference (male >102 cm, female >88 cm), high fasting glucose (>5.6 mmol/L), high serum triglycerides (>1.7 mmol/L), low HDL-C (male <1.03 mmol/L, female <1.3 mmol/L), and high blood pressure (>130/85 mmHg). Cartilage defects and cartilage volume were measured from MRI scans. Data were analysed using log binomial or linear regressions and were adjusted for age, gender, body mass index and physical activity.

Results: Among 328 participants (47.3% were females), 40 (12.7%) had hyperglycaemia and 21 (6.7%) had MetS. Glucose homeostasis measures (except fasting glucose) were associated with tibiofemoral cartilage defects (Fasting insulin: relative risk (RR) 1.05/mL, 95% confidence interval (CI) 1.01 to 1.08; HOMA2-IR: 1.44, 1.08 to 1.92; HOMA2-beta: 2.59, 1.33 to 5.07; HOMA2-S: 0.36, 0.18 to 0.72), but not patellar cartilage defects. There were no associations between glucose homeostasis measures and knee cartilage volume. MetS measures were not associated with either cartilage defects or cartilage volume, except the associations between high waist circumference and tibiofemoral cartilage defects (RR 2.32, 95% CI 1.18 to 4.54) and between low HDL-C and tibiofemoral cartilage defects (RR 1.99, 95% CI 1.08 to 3.69).

Conclusion: Insulin resistance was associated with higher risk of tibiofemoral cartilage defects amongst young adults. MetS was not associated with either cartilage defects nor cartilage volume. These suggest that glucose homeostasis, but not MetS, may play a role in cartilage damage in young adults and may lead to knee OA in later life.

Disclosure of Interests: None declared


THU0676
HEPATITIS B VIRUS REACTIVATION IN A COHORT OF PATIENTS TREATED WITH BIOLOGICS – DATA FROM THE ROMANIAN REGISTRY OF RHEUMATIC DISEASES
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Background: Accompanying the increased use of biological and non-biological antirheumatic drugs, a greater number of cases of hepatitis B virus (HBV) reactivation have been reported in inactive hepatitis B surface antigen (HBsAg) carriers and also in HBsAg-negative patients (pts) who have resolved HBV infection (1). Romania has a high prevalence for HBV infection. According to a national epidemiological study conducted in 2013, 27.9% from the Romanian population has serological markers of resolved HBV infection, while 4.2% of inactive carriers of HBsAg (2).

Objective: To estimate the rate of HBV reactivation in a cohort of patients treated with biologics, in Romania.

Methods: Data were gathered from the Romanian Registry of Rheumatic Diseases (RRRB) for rheumatoid arthritis (RA), anklyosing spondylitis (AS) and psoriatic arthritis (PsA). The cohort included patients previously exposed to HBV: HBsAg inactive carriers or resolved HBV infection. HBV reactivation was considered as the presence of DNA-HBV or positivity of HBsAg in a previously negative patient. The collected data included exposure to biologics in person-years (PY) and serological markers of HBV.

Results: The cohort included 1744pts (5505.95 PY): 936 RA pts (2762.97 PY), 640 AS pts (2037.64 PY) and 168 PsA pts (705.34 PY). The mean age was 58.72ys (65rs for RA, 49.58ys for AS, 61.58ys for PsA); 1058 (60.6%) women; 786 (74.2%) RA pts, 175 (16.5%) AS pts and 97 (9.1%) PsA pts. Mean disease duration was 14.5yrs for RA, 10.7yrs for AS and 10.5yrs for PsA. The prevalence of HBsAg inactive carriers were 44 (4.7%) in RA group, 53 (8.28%) in AS group and 6 (3.57%) in PsA. The frequency of resolved HBV infection was 892 (95.3%) in RA group, 587 (91.7%) in AS and 162 (96.4%) in PsA. The total number of observed HBV reactivation cases was 16 (0.9%). In RA, 9 (0.9%) cases of HBV reactivation (0.31/100 PY) were observed, all cases on resolved HBV infection state; 7 pts were treated with rituximab (RTX); 2 pts with TNFα blockers. 8 cases (0.28/100PY) of HBV reactivation were observed in those without antiviral prophylaxis, compared to a single reactivation case (0.03/100PY) when antiviral prophylaxis was used. In AS cohort occurred 6 (0.9%) cases of HBV reactivation (0.29/100 PY), all patients being treated with TNFα blockers (3 etanercept, 1 adalimumab, 1 infliximab, 1 golimumab); 4 cases of HBV reactivation developed in inactive carriers of HBsAg and 2 in resolved HBV infection. 5 cases (0.24/100PY) of HBV reactivation were observed in those without antiviral prophylaxis, compared to a single reactivation case (0.04/100PY) when antiviral prophylaxis was used. In PsA group, only 1 case of HBV reactivation (0.14/100PY), on inactive carrier of HBsAg state, during TNFα blocking agent (golimumab).

Conclusion: HBV reactivation appeared more often on a resolved infection state, especially without antiviral prophylaxis. No cases of fulminant hepatitis were noted. Most cases developed in RTX exposed RA patients, while in AS group all HBV reactivation appeared with TNFα blockers.

References:

Disclosure of Interests: None declared


THU0677
IDENTIFICATION OF PREVALENCE, PROGNOSTIC FACTORS, AND OUTCOMES OF PATIENTS WITH INTERSTITIAL PNEUMONIA WITH AUTOIMMUNE FEATURES: A SINGLE CENTER LARGE-SCALE OBSERVATIONAL COHORT STUDY
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Background: Patients with idiopathic interstitial pneumonia (IIP) may have features of connective tissue diseases (CTDs). The term interstitial pneumonia with autoimmune features (IPAF) has been recently proposed for such patients. A few studies have been reported in prevalence of IPAF which was varied from 7.3% to 34.1% [1, 2]. Factors reported to indicate a poor prognosis in IPAF include age, smoking history, organizing pneumonia pattern in HRCT, anti-RNP antibody positivity, decline inDLCO and presence of a multi-compartment feature within the morphological domain [2, 3]. To date, however, no study has comprehensively described prevalence of IPAF and factors of exacerbation.

Objectives: The aim of study was to identify of prevalence of IPAF in patients with interstitial pneumonia with autoimmune features for exacerbation in patients with IPAF, and compared outcomes among patients with IPAF, IIP, and CTD-ILD.

Methods: Six hundred- and seventy-two patients who visited our department between April 2009 and March 2018 and were evaluated by chest
HRCT scan. Then, they were clinically and radiologically diagnosed as having interstitial lung disease (ILD), IIP or connective tissue diseases associated ILD were enrolled. We applied IPAF criteria to these patients. Then, we purified 68 patients. The prognostic factors for exacerbation were prospectively calculated and statistically analyzed using clinical, laboratory and imaging data collected from medical records.

**Results:** Prevalence of IPAF was 10.1%. Of 68 patients with IPAF, 60% were women and mean age at diagnosis was 64.2 ± 13.8 years old. Mean observation period was 27.1 ± 29.6 months. Smoking history was 42.6% (n=29). Treatment including oral glucocorticoid or/and immunosuppressant use were 44.1% (n=30). Exacerbation rate was 25% (n=17). Overall death rate was 5.9% (n=4) and respiratory death rate was 2.9% (n=2). Comparison of characteristics at diagnosis between the exacerbation group and non-exacerbation group showed that the exacerbation group had a significantly elevated rate of smoking history, KL-6, and SP-D (P=0.01, 0.006, and 0.03, respectively). We then analyzed transition of KL-6 in patients with IPAF, IIP, or CTD-ILD. KL-6 at baseline in patients with IPAF (1212 ± 162 U/mL) was higher than those with IIP and significantly higher than those with CTD-ILD (1030 ± 1027 U/mL( P=0.69) and 829.5 ± 1002 U/mL(P=0.024)), while exacerbation rate in patients with IPAF (25%) was significantly lower than those in IIP patients (40%) and CTD-ILD patients (41%) (P=0.03). Furthermore, KL-6 in IPAF patients gradually decreased during course and was lower than IIP or CTD-ILD patients at 84 months from diagnosis.

**Conclusion:** Our large-scale observational cohort study revealed prevalence of IPAF in patients with ILD and identified three baseline factors associated with exacerbation in the patients with IPAF and suggested that IPAF might have a better prognosis than IIP or CTD-ILD.

**REFERENCES:**

**Disclosure of Interests:** None declared

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MALIGNANCY RISK IN MALE PATIENTS WITH ANKYLOSING SPONDYLITIS

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**Background:** In recent studies, the association between autoimmune disease and malignancy has been reported. However in Ankylosing spondylitis (AS), a chronic inflammatory rheumatic disease with marked male predominance, the evidence of this relationship is scarce and inconsistent.

**Objectives:** To determine the overall cancer and site-specific cancer risk in male patients with AS.

**Methods:** Using the claims database of Health Insurance and Review Assessment (HIRA), male patients with AS without prior cancer history between 2012 and 2014 were enrolled (n=21,780). For the control group, male general population, stratified random samples of claims data were used (n=342,361). All individual was observed up to the development of any cancer, or end of the study period (December 31, 2015). Incidence rates (IR) of overall and site-specific cancer were presented as the number of events per 10,000 person-years. To make fairer comparison between AS patients and general population, we calculated age adjusted incidence ratio by dividing cancer event of general population with corresponding age. The standardized incidence ratio (SIR) was used to represent the association between AS and cancer, accounting for person-years at risk.

**Results:** During 71,046 person-year, total 552 cases of cancer occurred in male AS group. Prostate cancer was the leading type of cancer in male AS patients (101 cases, IR 14.22, 95% CI 11.44-16.99). And it was followed by liver cancer (70 cases, IR 9.9, 95% CI 7.5-12.2), lung cancer (48 cases, IR 6.8, 95% CI 4.9-8.7), colorectal cancer (45 cases, IR 6.3, 95% CI 4.5-8.2) and stomach cancer (43 cases, IR 6.1, 95% CI 4.2-7.9). Compared to general population, the overall incidence of cancer was increased in male patients with AS (SIR 1.25, 95% CI 1.14-1.36).

At a specific malignancy type, the risk of pancreas cancer (SIR 1.75, 95% CI 1.12-2.37) and malignancy of male reproductive system were increased (SIR 1.97, 95% CI 1.59-2.35).

**Table 1. The standardized incidence ratio of overall malignancy.**

<table>
<thead>
<tr>
<th>Type of Malignancy</th>
<th>Male general population</th>
<th>Male AS patients</th>
<th>SIR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR (95% CI)</td>
<td>Age-adjusted expected IR (95% CI)</td>
<td>IR (95% CI)</td>
<td></td>
</tr>
<tr>
<td>All malignancy</td>
<td>102.5</td>
<td>65.0</td>
<td>77.7</td>
</tr>
<tr>
<td>(100.7-104.3)</td>
<td>(63.7-66.2)</td>
<td>(71.2-84.2)</td>
<td>(1.14-1.36)</td>
</tr>
<tr>
<td>Hematologic</td>
<td>3.4</td>
<td>2.3</td>
<td>3.8</td>
</tr>
<tr>
<td>(3.0-3.7)</td>
<td>(2.1-2.6)</td>
<td>(2.4-5.2)</td>
<td>(1.06-3.34)</td>
</tr>
<tr>
<td>Solid malignancy</td>
<td>99.1</td>
<td>62.6</td>
<td>73.9</td>
</tr>
<tr>
<td>(97.4-100.9)</td>
<td>(61.4-63.9)</td>
<td>(67.6-80.2)</td>
<td>(1.13-1.34)</td>
</tr>
</tbody>
</table>

Incidence rate was presented as the number of events per 10,000 person-year with 95% CI.

**Conclusion:** Male patients with AS have a increased overall cancer risk, especially in pancreas cancer and malignancy of male reproductive system.

**REFERENCES:**

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