HYPERURICEMIA IN PATIENTS WITH PRIMARY HYPERTENSION: PREVALENCE AND ASSOCIATED FACTORS

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Background: Hyperuricemia and hyperuricemia (HU) are both cardiovascular risk factors. HU is frequently associated with hypertension even without the use of treatments that potentially cause elevations of uric acid levels.

Objectives: To determine the prevalence of HU in patients diagnosed with primary hypertension and its associated factors.

Methods: A cross-sectional study was conducted in the rheumatology and endocrinology departments of Farhat Hached Hospital of Tunisia over a period of 6 months. Patients diagnosed with primary hypertension were included. HU was defined by uric acid levels ≥ 360 µmol/L in women and ≥ 420 µmol/L in men.

Results: One hundred patients were included. Study population was mainly made of women (65%). The median age of was 63 years (min:34, max:89). The prevalence of HU was 26%. HU was more common in women (19%) compared to men (7%) without statistical significance (p=0.315). The median values of systolic and diastolic blood pressure values were 140 mmHg and 80 mmHg, respectively. Elevated diastolic blood pressure was associated with HU (p=0.043). All patients presented other comorbidities. Type 2 diabetes was the most common one (83%) followed by obesity (56.7%). Forty three percent of patients had dyslipidemia, 21% renal failure, 16.3% proteinuria, 9% gout, 8% hypothyroidism and 30% osteoarthritis. HU was significantly associated with hypothyroidism (p=0.007), renal failure (p=0.038) and proteinuria (p=0.02). HU was not associated with disturbance of limb and glycemic status. High uric acid levels were associated with the use of thiazide diuretics (p=0.048) and ACE inhibitors (p=0.037). Nonetheless, no association was found with the use of low dose aspirin (p=0.412) nor other antihypertensive treatments.

Conclusion: Prevalence of HU is high in patients diagnosed with primary hypertension and is associated with hypothyroidism, obesity, renal failure, proteinuria and diastolic hypertension. HU is also associated with the use of thiazide diuretics and ACE inhibitors.

REFERENCES:

Disclose of Interests: None declared

EARLIER ONSET OF ARTERIAL HYPERTENSION IS A RISK FACTORS FOR SEVERE COURSES OF GOUT

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Background: Comorbidities cardiovascular disease such as arterial hypertension (AH) are common in people with gout and complicate its management and treatment. There are no standard management guidelines for this condition, which is frequently treated with non-steroidal anti-inflammatory drugs or steroid infiltrations with variable efficacy, some patients presenting symptoms for several months 1. Anakinra, an interleukin-1 receptor antagonist, showed non-inferiority compared to usual care in the treatment of acute gout arthritis in a randomized controlled study 2 and demonstrated effectiveness in comorbid patients with recurrent crystal-related arthritis. Due to our local experience with anakinra to treat calcific periartthritis3, we started using anakinra in the treatment of selected patients with ACD in hand and wrist with severe pain.

Objective: To report our experience with anakinra to treat ACD in hand and wrist in terms of efficacy and safety.

Methods: We retrospected all included patients treated with anakinra for ACD in hand or wrist in our department in 2023. We extracted data on treatment duration, pain, range of motion, skin erythema, hypervascularization, oedema and X-ray findings when available.

Results: Ten patients (mean age 45, SD 11) were treated for ACD in hand or wrist with anakinra 400mg per day for a mean duration of 2.7 days. We observed a fast and significant improvement of pain at rest on a 0-10 VAS scale (mean pain reduction at day 2 (SD): -3.5 (2.8), p=0.01). All patients were free of pain at rest after day 8 and at motion after day 21. Range of motion significantly improved at day 2 (+41% (24), mean (SD), p=0.03). We observed local erythema and oedema improvement from day 2 and a decrease in skin temperature from day 3. Calcifications decreased in size or disappeared in the majority of the patients. We did not observe any adverse events. Patients did not report recurrence after phone contact, 12 months after treatment.

Conclusion: Anakinra was associated with a significant clinical improvement after only two days of treatment of ACD in hand or wrist and may be considered to treat patients with this condition, especially those with contraindication to NSAIDs or glucocorticoids. Further controlled studies are needed to confirm our observations.

REFERENCES:
AB1067 ASYMMETRIC HYPERURICEMIA AND ASSOCIATED FACTORS IN MALE PATIENTS VISITED HANOI MEDICAL UNIVERSITY HOSPITAL
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Background: Asymptomatic hyperuricemia prevalence in Vietnamese men has risen over the past several years. This leads to gout and increases cardiovascular risk.

Objectives: To assess the prevalence of asymptomatic hyperuricemia and associated factors in male patients who had medical check-ups in Hanoi Medical University Hospital.

Methods: All asymptomatic hyperuricemia male patients over 18 years old, had medical check-ups in outpatient clinics from January 2020 to May 2021. Exclusion criteria included patients having medicine which affected serum uric acid (allopruronil, probenecid, sulfinpyrazone, salicylate, phenylbutazone, ascorbic acid, ethambutol, pyrazinamide, etc.), had acute diseases, diabetes type 1, chronic kidney disease and malignancies. All patients were tested for serum uric acid, total Cholesterol, Triglyceride, HbA1C, LDL-C and fasting serum glucose using Roche Cobas 6000 analyzer. Age, body mass index, alcohol consuming, physical activities and comorbidities were identified.

Results: 798 male patients over 18 years old were included in the study. Mean age was 39.5 ± 11.2, overweight and obesity rate was 31.5% and 29.8%, respectively. 41.4% patients had hyperuricemia with mean serum uric acid was 405.2 ± 81.2 μmol/l (highest was 820 μmol/l). We found that the factors associated to hyperuricemia in men were: the presence of hypertension (OR 1.64, 95% CI 1.1 – 2.34), dyslipidemia (OR 2.37, 95% CI 1.73-3.24) and alcohol consuming (OR 2.16, 95% CI 1.6-2.8). We did not find association between smoking, physical activities, impaired glucose tolerance with hyperuricemia.

Conclusion: Alcohol consuming, dyslipidemia and hypertension were associated with higher risk of incident asymptomatic hyperuricemia in Vietnamese men.

Disclosure of Interests: None declared


AB1068 HIGH FREQUENCY OF STRUCTURAL DAMAGE IN THE LOWER SPINE WITH CHONDROCALCINOSIS
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Background: Calcium pyrophosphate dihydrate crystal deposition disease (CPPD, chondrocalcinosis) is known to affect fibrocartilaginous tissue in the lower spine.

Objectives: To assess the frequency and severity of structural changes in the lower spine in patients with established CPPD in comparison to degenerative disc disease (DDD).

Methods: In a retrospective study, patients with CPPD or DDD as a main diagnosis were studied using sagittal costal and lumbar spine radiographs (CR) performed during 2014 – 2020 were included. Definite other inflammatory conditions affecting the spine were excluded. The CR segments T7-L5/S1 were evaluated for the occurrence of disc calcification, intradiscal vacuum phenomenon, disc height (normal, narrowing, complete loss), endplate erosion, osteophytes and spondylolisthesis. When lumbar spine MRIs of the same time point were available, discove- tral units were evaluated for the occurrence of vacuum phenomena, endplate erosion, Modic changes and disc dehydration (Pfirrmann). Follow up CR were assessed if available. All available images were evaluated by 2 independent readers and discrepancies were solved by consensus.

Results: CR of 140 patients (1.171 discovertebral units) with CPPD and 99 DDD (803 discovertebral units) were evaluated (mean age 74.4±9.7 and 71±6.2; 20% vs. 20.2% males, respectively). MRIs of the spine were available from 48 CPPD and 44 DDD patients. Vacuum phenomena, disc calcification, osteophytes and erosion were significantly more frequently seen in patients with CPPD compared to DDD (Table 1) with no differences between the thoracic and the lumbar spine. Follow-up CR were available for 29 patients with CPPD and 46 DDD. Both groups presented statistically significant progression of endplate erosions and osteo- phytes (p<0.001 - 0.02 for both groups). Notably, even though CR follow-up times in the CPPD group were, compared to DDD (median (IQR) 1.9 (2.4) vs 3.0 (3.1) years, p=0.033, respectively), shorter, radiographic progression was noted more frequently in CPPD vs. DDD for erosive changes (6.8% vs. 0.6%, p=0.018) and disc calcification (9.8% vs. 0.6%, p=0.007), respectively. When comparing MRIs, a higher number of discovertebral units was affected by vacuum phenomena (34 vs 13, p=0.04) and endplate erosions (L4/S 45.5% vs. 24.4%, p=0.04, L5/ S1(40.4% vs 19.5%, p=0.03) in patients with CPPD vs. DDD, respectively.

Table 1. Frequency of affected discovertebral units on conventional radiographs

<table>
<thead>
<tr>
<th></th>
<th>CPPD</th>
<th>DDD</th>
<th>p</th>
</tr>
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<tbody>
<tr>
<td>Vacuum phenomenon</td>
<td>156 (13.3%)</td>
<td>44 (5.5%)</td>
<td>&lt;0.001</td>
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<tr>
<td>Disc calcification</td>
<td>193 (16.5%)</td>
<td>42 (5.2%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Endplate erosion</td>
<td>159 (13.6%)</td>
<td>26 (3.2%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Osteophytes</td>
<td>171 (14.5%)</td>
<td>480 (59.8%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Spondylolisthesis</td>
<td>126 (10.8%)</td>
<td>69 (8.6%)</td>
<td>0.264</td>
</tr>
</tbody>
</table>

CPPD: calcium pyrophosphate dihydrate crystal deposition disease DDD: degenerative disc disease

Conclusion: Patients with chondrocalcinosis showed more severe and progressive degenerative findings in the lower spine as assessed by both, CR and MRI, even more in comparison to established DDD. This data shows that disease manifestations of CPPD in the axial skeleton are clinically relevant.

Disclosure of Interests: None declared


AB1069 URIC ACID LEVELS IN RELATION TO FASTING BLOOD GLUCOSE AND HBA1C
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Background: Hyperuricemia is reported to be a risk factor for the development of type 2 diabetes (T2D) and prediabetes.

Objectives: To determine the prevalence of HU and gout in T2D and prediabetes and to study the relationship between HU, gout, T2D and prediabetes.

Methods: A cross-sectional study was conducted between January 2021 and June 2021 in the Rheumatology and endocrinology departments of Farhat Hached Hospital. Patients who fulfilled the diagnosis of diabetes or prediabetes according to the American Diabetes Association guidelines of 2021 were included. Uric acid levels were also assessed and HU was defined as uric acid levels ≥ 360 μmol/l in women and ≥ 420 μmol/l in men. Diagnosis of gout was based on the ACR/EULAR 2015 classification.

Results: One hundred fifty-one patients having T2D and 46 prediabetic patients were included. The mean of age in both groups was 61 and 54 years respectively. Prevalence of HU was 26.1% in prediabetic while it was 17.2% in the group of T2D with no statistical relevance (p=0.182). No difference related to gender was observed in both groups. The prevalence of gout was higher in the prediabetes group (15.2%) compared to the T2DM group (6%) but without significant difference (p=0.062). Uric acid levels were remarkably higher in prediabetic patients (mean=324.3 μmol/l) compared to patients having T2D (median=278 μmol/l) with a significant statistical difference (p=0.022). No association was identified between HU, fasting blood glucose and HbA1C in the two groups. However, uric acid levels are inversely proportional to fasting blood glucose (p=0.001) and HBA1C (p=0.001) in both patients.

Conclusion: Individuals with moderately elevated HbA1C and fasting glucose levels (prediabetes) may be at a higher risk of HU, whereas individuals with diabetes or elevated HbA1C levels may have a normal uricemia. This could be explained by the GLUT-9 transporter regulation in the renal proximal tubule that blocks the absorption of uric acid when glycosuria is present.

Disclosure of Interests: None declared


REFERENCES

DISCLOSURE OF INTERESTS: None declared