Oral Presentations

WEDNESDAY, 12 JUNE 2019

Best practices in spondyloarthritis

OP0001 THE PRESCRIPTION OF NSAIDS FOR PATIENTS WITH INFLAMMATORY ARTHRITIS IS ASSOCIATED WITH PATIENT BUT NOT PHYSICIAN ASSESSED DISEASE ACTIVITY MEASURES AND DECREASES WITH INITATION OF TNF INHIBITOR THERAPY

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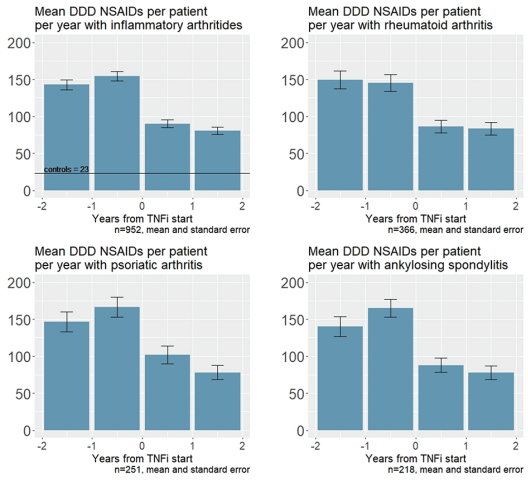
Background: TNFα-inhibitor therapy is effective in controlling several rheumatic diseases and has been shown to reduce pain. Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used for treatment of pain and stiffness in inflammatory arthritides and are the first treatment line in axial spondyloarthritis.
Objectives: To study the prescriptions of NSAIDs in patients with rheumatoid arthritis (RA), psoriatic arthritis (PsA) and ankylosing spondylitis (AS) registered in ICEBIO and matched controls, and explore their relationship with disease activity measures. In addition, to explore the impact of initial TNFα-inhibitor therapy on NSAID prescription rates.
Methods: All patients receiving biologic DMARD therapy in Iceland for rheumatic diseases are registered in a nationwide database; ICEBIO. The Icelandic Directorate of Health operates a prescription database that includes over 90% of all drug prescriptions in Iceland. On February 1st2016 we extracted data for all patients with RA, PsA and AS from ICEBIO along with all filled prescriptions for NSAIDs made two years before and after the initiation of TNFα-inhibitor therapy. We then extracted NSAID prescriptions for five randomly selected individuals matched on age, sex, and calendar time of TNF inhibition for each patient.
Results: Data from 366 patients with RA, 218 with AS, 251 with PsA and 4760 controls was included. Control group was prescribed a mean of 23 defined daily doses (DDD) of NSAIDs per year. In total the ICEBIO patients were prescribed 6.7 times more DDDs of NSAIDs than the controls or a mean of 149 per year. After initiation of TNFα-inhibitor therapy the use of NSAIDs was reduced to a mean of 85 DDD per year, or 3.9 times that of the controls.
Among the patients with RA, consumption was reduced by 43% (mean 148 to 85 DDD/year), 47% in the AS group (154 to 83 DDD/year) and 43% in the PsA group (157 to 90 DDD/year). The 20% of patients who used the largest amounts of NSAIDs over the 4 year period reported worse visual analogue scale (VAS) pain scores (mean ±SD 65±20 to 60±23), VAS global health scores (70±19 to 65±23), and HAQ scores (1.19±0.64 to 1.03±0.67) when TNFα-inhibitor therapy was initiated compared to the rest of the ICEBIO group ($p<0.05$ by students t-test), though there was no statistically significant difference in the number of swollen (4.5±4.7 vs 4.2±4.4) or tender (5.4±4.8 vs 5.5±5.4) joints or in the physician global VAS assessment (56±17 vs 57±18).



Conclusion: Patients with inflammatory arthritidies requiring TNFα-inhibitor therapy use more NSAIDs than general population controls, but consumption is significantly reduced following the initiation of the first-line biologic drug. The patients with the highest NSAID use have worse patient reported outcome measures but physician outcome measures are similar, which may suggest a non-inflammatory etiology of the pain.
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OP0002 EARLY INFLAMMATORY BACK PAIN SERVICE – REDUCING TIME TO DIAGNOSIS IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS – THE FIRST 8 YEARS

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Background: Specialist axial spondyloarthritis (axial SpA) clinics are advocated to promote early diagnosis and treatment and provide essential support and guidance to patients suffering with axial SpA[1]. In 2010, we set up an early inflammatory back pain service (EIBPS) to target early diagnosis and management to prevent the consequences of delayed diagnosis.
Objectives: We established an EIBPS to reduce time to diagnosis and initiation of biologic therapy. This was accompanied by an education campaign (Back on Track) to local GP's, allied health practitioners (AHP's)and secondary care colleagues and to the general public to focus raising awareness of Inflammatory Back Pain (IBP) and axial SpA.
Methods:

- Referred patients with suspected IBP were screened by a specialist physiotherapist.
- Each patient was assessed for IBP (Berlin Criteria) and other SpA features.
- Bloods including HLA–B27 were taken for those with IBP or suspected axial SpA.
- Sacroiliac Joint (SIJ) X–Rays were taken in suspected axial SpA patients and if normal spinal and SIJ MRI's taken.
- An educational campaign was undertaken with formal education on axial SpA for AHP's and doctors, in addition to a suite of promotional and training materials developed and disseminated.

Results: Between 2010-2018, 599 patients had an initial assessment appointment in the EIBPS. 312 (52%) were female, mean age 39.6 years (at data collection). Of the 599 referrals, 413 (69%) had symptoms of IBP and fulfilled the Berlin IBP criteria. These were referred for formal screening. 238 (40%) patients had confirmed axial SpA fulfilling ASAS criteria. Of these 238, 59 (10%) had a pre-existing diagnosis from another hospital. The remaining 179 (30%) patients received a new diagnosis, with 128 patients fulfilling radiographic axial SpA criteria and 51 patients fulfilling non-radiographic ASAS criteria. The time between the onset of back pain and diagnosis of axial SpA was 3.0 (0.3-30 years). Of those patients who fulfilled the criteria for biologic therapy, treatment was initiated within a mean 5.6 months of their initial EIBPS appointment.
Conclusion: Establishing an EIBPS with an awareness campaign has resulted in a significant reduction in time to diagnosis to a median of 3yrs, with biologic initiation within 5.6 months of their initial EIBPS appointment in appropriate patients. The long term advantage of early patient diagnosis and access to biologic therapy on reducing structural damage, and positive benefits in terms of functional, emotional and socioeconomic factors is well known[2]. We advocate the replication of our specialist EIBPS service within the UK.

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CPPD – a forgotten disease that requires more attention??!!!

OP0003 CALCIUM PYROPHOSPHATE CRYSTAL DEPOSITION IN A COHORT OF 52 PATIENTS WITH GITELMAN SYNDROME

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Background: Gitelman syndrome (GS) is a rare recessively inherited tubulopathy, caused by inactive mutations in *SLC12A3* gene encoding the thiazide-sensitive-sodium-chloride transporter. It is characterized by an hypokalemic metabolic alkalosis with hypomagnesemia and hypocalciuria. Calcium pyrophosphate (CPP) crystal deposition is frequently described in GS case-reports but its prevalence and clinical phenotype are unknown.
Objectives: The aim is to describe clinical, biological and radiological features of CPP in a cohort of patients with genetically proven GS.
Methods: All patients (pts) with genetically proven GS in the French national reference center of rare diseases were proposed to have a consultation with a senior rheumatologist. Demographic data, history of joint pain and flare and biology disorders were recorded. Other causes of CPP disease were systematically ruled out. CPP crystal deposition was assessed by X-rays (all peripheral joints and cervical spine) and ultrasonography (US) (wrist, knee, ankle joints and symptomatic joints). Patients with history of cervical pain underwent computed tomography (CT) of the full cervical spine from occipital bone to C1-T1 disk, including temporomandibular joints.
Results: Fifty-two GS pts (21 men, mean age 46.5± 12.2 years) have been examined by a rheumatologist. Almost all patients had an heterozygous mutation on SLC12A3 gene. Forty-four pts experienced joint pain (84.6%), 23 joint flares (44,2%) and 25 cervical pain (48.1%). X-rays were performed in 42 pts, US in 38 and CT in 23. CPP depositions were observed in 36 (85.7%), 27 (71.1%) and 15 pts (65.2%) by X-rays, US and CT, respectively. All techniques combined, chondrocalcinosis was discovered in 42 patients. Deposits occurred in knees (n=32), wrists (n=29), cervical spine (n=23), ankles and feet (n=22) and shoulders (n=16). CPP depositions were widespread involving at least 3 joints in 27 (55.1%) pts. In knees, CPP depositions involved menisci (n=24), hyaline cartilages (n=16) and ligament or joint capsule (n=15). Cervical spine CT demonstrated CPP deposition in vertebral discs (n=17), transverse ligament (n=13), other ligament (n=13), vertebral facets (n=3) and temporomandibular joints (n=5).
Patients with CPP crystal deposition in more than 3 joints were significantly older (52.8±10.5 years) than patients with 2 or 3 affected joints (40.8±11.6 years, p=0.02) or patients without any affected joint (36.6±8.1 years, p=0.001). They were also more symptomatic with significantly more joint flares (p<0.0001). Magnesemia was inversely correlated with the number of affected joints: patients with >3 or 2-3 affected joints had a significantly lower magnesemia (0.57±0.1 and 0.59 ±0.1 mM, respectively) than patients with only 1 affected joint (0.83±0.1 mM). CPP crystal deposition was not associated with potassium level.

Table 1. Patients characteristics

Male sex, n (%)	21 (40.4)
Mean age ± SD (years)	46.5± 12.2
Heterozygous mutation on SLC12A3 gene, n (%)	36 (69.2)
Arthralgia, n (%)	44 (84.6%)
Recurrent joint flares, n (%)	23 (44.2%)
Cervicalgia, n (%)	25 (48.1%)
Kaliemia at GS diagnosis, mean ± SD (mM)	2.7± 1.1
Magnesemia at visit, mean ± SD (mM)	0.6± 0.3
Calcemia at visit, mean ± SD (mM)	2.4± 1.0

Conclusion: CPP crystal deposition occurred in more than 80% of patients with GS, was widespread and often symptomatic. The most affected sites were wrists, knees and the cervical spine. CPP crystal deposition was associated with long-standing GS, older age and lower serum magnesium level. Further studies are necessary to understand how GS favors CPP crystal deposition.
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OP0004 IS DUAL-ENERGY COMPUTED TOMOGRAPHY ABLE TO IDENTIFY EARLY-STAGE CALCIUM CRYSTAL DEPOSITION IN VIVO? INITIAL CLINICAL EXPERIENCE IN 132 PATIENTS WITH AND WITHOUT KNEE CHONDROCALCINOSIS

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Background: Calcium crystals are below the spatial resolution limit of currently available imaging techniques, and only aggregates can be identified in vivo at more advanced stages of the disease. Although dual-energy computed tomography (DECT) has the potential to discriminate the various calcium crystal types owing to its biochemical signature assessment capabilities, it remains to be seen whether this technique would be able to identify early-stage calcium crystal deposition in vivo.
Objectives: We aimed to assess whether DECT was able to identify calcium crystal deposition in the knee prior to the onset of chondrocalcinosis (CC), more specifically if DECT attenuation properties differed between patients with CC and controls without CC on DECT.
Methods: Consecutive patients with clinical suspicion of crystal arthritis and knee DECT scans were retrospectively reviewed and assigned to either CPPD (n=50) or control (n=82) groups depending on the presence/absence of CC on DECT. Regions of interest (ROI) were drawn in the following knee zones on a specific coronal DECT image: hyaline cartilage of the patellofemoral and medial and lateral tibiofemoral joint spaces, as well as medial and lateral menisci. The presence or absence of CC in these predefined ROIs were noted. Five DECT parameters were obtained: CT numbers (HU) at 80 and 140 kV, dual-energy index (DEI), electron density (ρe), and effective atomic number (Zeff). Knee zones were compared between groups using mixed linear models adjusting for age and the presence of osteoarthritis. A subgroup analysis was performed excluding zones were calcifications were visible on DECT images.
Results: Menisci from CPPD patients and controls had a mean Zeff of 7.9±0.4 and 7.6±0.2 (p<0.0001), mean ρe of 85±23 and 74±14 (p<0.0001) and mean DEI of 0.0036±0.0046 and -0.0001±0.0042 (p<0.001), respectively. DEI values differed significantly between patients and controls in tibiofemoral cartilage (0.0026 ±0.0041 in CPPD and 0.0023±0.0045)(p=0.013) but not in patellofemoral cartilage (p=0.57). When considering only the various regions from CPPD patients without CC in the selected ROIs, the ρe in menisci (n=79/185) did not differ between groups and differences in Zeff (p=0.15) and DEI (p=0.09) did not reach statistical significance after adjustment for age and osteoarthritis.
Conclusion: DECT has the potential to discriminate between meniscal fibrocartilage and articular cartilage of CPPD patients and controls in predefined regions of interest. DECT's ability to improve the sensitivity of conventional CT to identify invisible CPP deposits remains unclear as the trend did not reach statistical significance.
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Comorbidities in psoriatic arthritis

OP0005 INCIDENCE OF OVERALL AND SITE-SPECIFIC CANCERS IN TNF INHIBITOR TREATED PATIENTS WITH PSORIATIC ARTHRITIS: A POPULATION-BASED COHORT STUDY FROM 4 NORDIC COUNTRIES

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Background: Tumour necrosis factor inhibitors (TNFi) effectively reduce inflammation in Psoriatic arthritis (PsA). However, a possible association between treatment with TNFi and an increased cancer risk has previously been suggested.