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#### 68. PROGRESSION OF FUNCTIONAL DISABILITY IN PSORIATIC ARTHRITIS: A COMPARISON OF CONVENTIONAL DMARDS AND ANTI-TNF THERAPY

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**Background:** Psoriatic arthritis (PsA) has been shown to be equivalent to rheumatoid arthritis in its effect on patients' functional disability. There may be problems specific to PsA, related to skin disease and impact on psychosocial functioning. PsA patients who fail conventional DMARDs have demonstrated short-term improvement in physical functioning measured by the health assessment questionnaire (HAQ) on anti-TNF therapy but more long-term data is needed. We aim to estimate HAQ progression for patients with PsA while on established conventional or anti-TNF treatment for at least one year.

**Methods:** Patients who entered into the PsA database at the RNHRD, Bath between 1985–2009 were included. Patients are asked to complete a HAQ at their regular consultation. Annual HAQ progression was estimated in patients on established treatment based on the following model. An initial period of HAQ improvement was excluded from the analysis; this was assumed to be > 3 months from treatment commencement for patients on anti-TNF and > 6 months for conventional DMARD. A treatment course was included if at least 2 HAQ measurements were available more than 1 year apart. Thus, changes in HAQ were calculated once patients were established on treatment. The longest period within each treatment course without drug change was selected. Patients were classified according to combined DMARD and anti-TNF therapy, anti-TNF alone and DMARD alone. Other covariates included number of previous DMARD and anti-TNF treatments, disease duration, age and gender. Linear regression models were fitted and separate estimates of HAQ progression were made for each type of treatment.

**Results:** A total of 151 patients were included in the analysis, comprising a total of 162 treatment courses (132 DMARD, 30 anti-TNF). 52.3% of patients were female and average age at disease onset was 37 years (IQR: 27–50). Median disease duration was 11 years (IQR: 17–24). 51.4% of patients had large joint pattern of involvement at disease onset, 29.1% had small joint disease and 10.8% had both. The remainder had other patterns of joint involvement. The average duration of follow up was similar between the anti-TNF and combined therapy groups but shorter than the period of follow-up in the DMARD group. The mean number of HAQ observations was similar across all groups. Regression results found a significant progression in HAQ score of 0.024 (95% CI 0.003, 0.0449) points per annum in patients on conventional DMARDs alone while patients on anti-TNF had no significant progression (0.0003,  $P=0.99$ ).

**Conclusions:** This study demonstrates that the initial HAQ improvement on anti-TNF therapy is sustained once patients are established on treatment and that further decline occurred in patients on established conventional DMARD therapy.

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#### 69. GOLIMUMAB, A NEW HUMAN TNF- $\alpha$ ANTIBODY ADMINISTERED SUBCUTANEOUSLY EVERY 4 WEEKS, IN ANKYLOSING SPONDYLITIS: 104-WEEK EFFICACY AND SAFETY RESULTS OF THE RANDOMIZED, PLACEBO-CONTROLLED GO-RAISE STUDY

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**Background:** Golimumab (GLM), a new human anti-tumor necrosis factor (TNF) monoclonal antibody, has shown efficacy in ankylosing spondylitis (AS).

**Methods:** To assess GLM efficacy/safety in pts with active AS, 356 pts were randomized (1.8:1.8:1 ratio) to SC GLM 50 or 100 mg or PBO q 4 weeks. Eligible pts had definite AS (modified NY criteria), BASDAI  $\geq 4$  and a back pain score of  $\geq 4$ . At week 16, PBO or GLM 50 mg pts with < 20% improvement in total back pain and morning stiffness entered early escape (EE) to GLM 50 and 100 mg q 4 weeks, respectively (double-blind). At week 24, pts still receiving PBO crossed over to blinded GLM 50 mg SC injections q 4 weeks; others continued regimen through week 100, with evaluation 4 weeks later. Key data summaries are based on randomized treatment groups with no statistical comparisons; other summaries show observed data only by regimen followed.

**Results:** As reported previously, the primary endpoint (proportion of pts with ASAS20 at week 14) was achieved. Benefit seen at weeks 14 and 24 was maintained through week 104 (Table). BASMI linear scores improved from baseline to week 52; improvements were also maintained through week 104, as were improvements in SF-36 MCS and PCS scores. Pts not responsive to GLM 50mg who increased to 100 mg had lower rates of ASAS response and less improvement in other parameters vs other GLM-treated pts (Table). Adverse events (AEs) through week 104 were reported for 94% of GLM pts (little variation across GLM doses). Through week 104, 11% of GLM pts had a serious AE; the rate of GLM injection-site reactions was 1.4% (106/7705 inj) through week 104. There were no deaths.

**Conclusions:** Clinical improvements in AS pts previously seen at week 24 were maintained through week 104, with no major differences in efficacy/safety between GLM doses. GLM was generally well tolerated through 2 yrs of this 5 yr study.

	Placebo	GLM 50 mg	GLM 100 mg
Pts randomized	78 <sup>a</sup>	138	140
ASAS 20 <sup>b</sup>	30 (38.5%)	83 (60.1%)	100 (75.6%)
ASAS 40 <sup>b</sup>	30 (38.5%)	77 (55.8%)	76 (54.3%)
ASAS partial	17 (21.8%)	44 (31.9%)	43 (30.7%)
BASDAI <sup>c</sup>	6.02 (1.36, 7.79)	2.65 (0.84, 6.08)	2.73 (1.08, 5.34)
BASFI <sup>c</sup>	4.93 (0.98, 7.07)	2.22 (0.52, 5.80)	1.77 (0.49, 4.79)

Note: <sup>a</sup>Intent-to-treat analysis <sup>b</sup>Includes 35 pts who did not meet EE criteria at week 16 and 41 pts who did. <sup>c</sup>n in response, (%). <sup>d</sup>Median, (interquartile range).

<sup>\*\*</sup>Includes 25 pts who entered EE from 50 to 100 mg.

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## Metabolic and Crystal Arthropathies

#### 70. SINGLE INTRAMUSCULAR DEPOT METHYLPREDNISOLONE INJECTION: A CONVENIENT, EFFICACIOUS AND SAFE TREATMENT FOR GOUTY ARTHRITIS IN AN INPATIENT SETTING

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**Background:** Various modalities of treatment have been used and recommended in the treatment of acute gout. These include drugs such as colchicine, NSAIDs and oral prednisolone. Intramuscular depot methylprednisolone (im MP) is currently used in the treatment of rheumatoid arthritis as well as polymyalgia. However the response to im MP in acute gouty arthritis in an inpatient setting (where there are usually contraindications to NSAIDs) has not been previously described in literature.

**Methods:** Eighteen case records of patients presenting with acute gouty arthritis and referred to Rheumatology, between October 2008 and October 2009, were reviewed.

**Results:** Fourteen men and four women, with a mean age of 60 years (range 55–88 years) were seen. Of the 18, 14 patients had a previous history of chronic gout and 4 patients were newly diagnosed. Sixteen patients had polyarticular gout (mainly bilateral wrists and

knees) and the remaining 2 had monoarticular gout (1 knee, 1 wrist). Seventeen patients had synovial fluid analysis, which revealed negatively birefringent urate crystals, and 1 patient refused joint aspiration. All patients had predisposing co-morbidities such as diabetes (10), hypertension (15), CCF (5), chronic kidney disease (8) and 2 patients had a history of chronic alcohol excess. Five patients initially received NSAIDs and 3 had concomitant colchicine with all 5 showing a delayed response. All patients were given im MP 120 mg in the gluteal region as a deep injection. All responded completely to im yMP within 2 days with resolution of pain and swelling of inflamed joints. All patients felt much improved and rated the treatment highly.

**Conclusions:** The latest BSR guidelines recommends the use of steroids in the management of refractory cases of gout, i.e. patients intolerant of or having contraindications to NSAIDs or colchicine. This restricted indication is based mainly on the side effects to oral steroids or lack of expertise with intra-articular injections.

We have shown that a single intramuscular methyl prednisolone injection is highly effective, very convenient, patient acceptable and safe treatment for gout particularly in elderly patients with multiple co-morbidities.

As most cases of inpatient gout have comorbidities such as in our series with contraindications to NSAIDs, we recommend the use of im methyl prednisolone as the first-line treatment in such patients. It may be a less painful alternative to intra-articular steroid injections and safer than bigger doses of oral steroids (especially in diabetes).

**Disclosure statement:** All authors have declared no conflicts of interest.

## 71. ACUTE GOUTY ARTHRITIS IN PREGNANCY

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**Background:** Acute gouty arthritis is uncommon in women (10–15%). If it does occur, it occurs after the menopause. The percentage of women who develop acute gout in the pre-menopausal state is negligible and is usually associated with other co-morbidities such as renal insufficiency or diuretic use. During pregnancy the serum uric acid normally drops; therefore, it is unlikely for patients to develop acute attacks. There have been some published cases of gout co-existing with pregnancy but patients did not develop acute attacks until delivery. Only 3 cases of acute gout in pregnancy have been described in the literature.

**Methods:** We are presenting an unusual case of acute gouty arthritis in a 31 year old lady who is 7 weeks pregnant.

**Results:** A 31-year-old obese pregnant woman presented with an acute episode of right ankle pain. She was 7 weeks pregnant and has been experiencing morning sickness since the start of pregnancy. She had recurrent attacks of gout affecting her big toe over the preceding 8 months and was treated by her general practitioner with etoricoxib. She had a past medical history of transient haematuria in 2007 with normal ultrasound of the kidneys, IVU and cystoscopy. Other co-morbidities included hypertension, hypothyroidism and type II diabetes mellitus. She had a strong family history of gout, a brother and a maternal uncle developing symptoms at 25 and 16 years, respectively. On examination, she was obese (BMI of 48), BP of 160/85. Urine dipstick showed 1+ protein. She could not weight bear with evidence of right ankle joint synovitis. Aspiration of the ankle revealed 1.5 ml of turbid fluid, which tested positive for monosodium urate crystals. She had a normal renal function and a high uric acid of 551  $\mu\text{mol/l}$ . Her urinary urate: creatinine ratio was 0.24 (0.25–0.35) with a urate fractional excretion of 4% (7–18.6). Red cell hypoxanthine guanine phosphoribosyl transferase and adenine phosphoribosyl transferase enzyme activity were normal. She was treated with an intra-articular and intramuscular injection of methyl prednisolone with resolution of symptoms. She subsequently had further episodes that were treated similarly during pregnancy.

**Conclusions:** Only 3 cases of acute gouty arthritis during pregnancy were published. Kelsall et al. reported acute gouty attack affecting the 1st MTP in a 34-year-old female with renal impairment, low creatinine clearance and a low fractional excretion of urate of 5.5% (8–10%).

Friedman et al. described a case of acute gout in a pregnant lady with severe pre-eclampsia and Loeffler et al. described it with renal impairment. This would be the fourth case described (Table).

Published cases of acute gout during pregnancy including our present case and all patients' characteristics

**Disclosure statement:** All authors have declared no conflicts of interest.

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## 72. CANAKINUMAB (ACZ885) VS TRIAMCINOLONE ACETONIDE FOR TREATMENT OF ACUTE FLARES AND PREVENTION OF RECURRENT FLARES IN GOUTY ARTHRITIS PATIENTS REFRACTORY TO OR CONTRAINDICATED TO NSAIDS AND/OR COLCHICINE

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**Background:** Current treatments for arthritis flares in gout (gouty arthritis) are not effective in all patients and may be contraindicated in many due to underlying comorbidities. Urate crystals activate the NALP 3 inflammasome which stimulate production of IL-1 $\beta$ , driving inflammatory processes. Targeted IL-1 $\beta$  blockade may be an alternative treatment for gouty arthritis. Canakinumab (ACZ885) is a fully human monoclonal anti-IL-1 $\beta$  antibody with a long half-life (28 days).

**Methods:** This was an 8-weeks, dose-ranging, multicentre, blinded, double-dummy, active-controlled trial of patients  $\geq 18$  to  $\leq 80$  years with an acute gouty arthritis flare, refractory to or contraindicated to NSAIDs and/or colchicine. Patients were randomized to 1 subcutaneous (sc) dose of canakinumab (10, 25, 50, 90, or 150 mg) or 1 intra muscular (im) dose of triamcinolone acetonide (TA) [40 mg]. The primary variable was assessed 72 h post-dose, measured on a 0–100 mm VAS pain scale. Secondary variables included pain intensity 24 and 48 h post dose, time to 50% reduction in pain intensity and time to recurrence of gout flares up to 8 weeks post dose.

**Results:** 200 patients were enrolled (canakinumab n = 143, TA n = 57) and 191 completed the study. A statistically significant dose response was observed at 72 h. The 150 mg dose reached superior pain relief compared with TA starting from 24 h: estimated mean difference in pain intensity on 0–100 mm VAS was -11.5 at 24 h, -18.2 at 48 h and -19.2 at 72 h (all  $P < 0.05$ ). Canakinumab 150 mg provided a rapid onset of pain relief: median time to 50% reduction in pain was reached at 1 day with canakinumab 150 mg vs. 2 days for the TA group ( $P = 0.0006$ ). The probability of recurrent gout flares was 37% with Canakinumab 150 mg vs. 45.4% with TA 8-weeks post treatment, a relative risk reduction of 94% ( $P = 0.006$ ). Serious adverse events (AEs) occurred in 2 patients receiving canakinumab (appendicitis and carotid artery stenosis) and 1 receiving TA (cerebrovascular disorder). Investigator's reported these events as not study drug related. There were no discontinuations due to AEs.

**Conclusions:** Canakinumab 150 mg provided faster onset and superior pain relief compared with TA for acute flares in gouty arthritis patients refractory to or contraindicated to standard treatments.

Case	Age	Renal impairment	Family history	Tophi	Renal stones	Co-morbidities	X-ray changes	Pre-eclampsia
Friedman et al. (1958)	33	Yes	Yes	No	No	No	Yes	Yes
Loeffler et al. (1960)	27	Yes	No	No	No	No	No	No
Kelsall et al. (1994)	34	Yes	No	No	No	No	No	No
Present case	31	No	Yes	No	Questionable	Hypertension Hypothyroidism Obesity Diabetes	No	No

The 150 mg dose of canakinumab prevented recurrence of gout flares with a relative risk reduction compared with TA of 94% at 8-weeks post-dose and was well tolerated.

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## Miscellaneous Rheumatic Diseases

### 73. IS THERE A DELAY IN SPECIALIST REFERRAL OF HOT SWOLLEN JOINT?

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**Background:** Patients with acute, hot, swollen joints commonly present to general practitioners, emergency departments and/or acute admitting teams rather than directly to rheumatology. It is imperative to consider septic arthritis in the differential diagnosis of these patients. The British Society of Rheumatology (BSR) has produced guidelines for the management of this condition, which include recommendations for early specialist referral and joint aspiration of all patients with suspected septic arthritis. We examined whether the initial management of patients with acute hot swollen joint(s) at University College London Hospital (UCLH) follows BSR guidelines.

**Methods:** For the period Feb to Nov 2009, appropriate patients were identified by searching the UCLH database using the diagnostic terms, "pyogenic arthritis", "septic arthritis" and "gout"; and from all joint aspirate requests sent to microbiology. Medical notes were obtained and any patients who had elective arthroscopies or chronic (> 6 weeks) symptoms were excluded. Data were collected on the time taken from the onset of symptoms to specialist (orthopaedic/rheumatology) referral and joint aspiration, collection of blood cultures and antibiotic treatment with or without microbiology advice.

**Results:** Twenty patients were identified with hot swollen (18 monoarticular, 3 prosthetic) joint(s) of < 2 weeks duration. Of whom, 3/20 (15%) were admitted directly to rheumatology, 7/20 (35%) to the acute admissions unit, 3/20 (15%) to orthopaedic, 4/20 (20%) to a medical team and 1/20 (5%) to general surgery. In 19 (95%) cases, specialist (rheumatology/orthopaedic) advice was sought. Of 14 cases not seen directly by specialists 9 (64%) were referred at 24–48 h and 5 (36%) at 48–192 h. All 20 patients had joint aspiration. In 9/20 (45%) of cases, joint aspiration was performed in less than 6 h, 3/20 (15%) cases at 6–24 h and 6/20 (30%) cases at 24–192 h and was not recorded in two patients. Of these, crystals were identified in two and one was culture positive. Blood cultures were received for only 6/20 (30%) of cases and only clearly documented to have been taken prior to antibiotic therapy and none were positive. Of 14/20 (70%) started on antibiotic treatment empirically, only 6 (42%) were preceded by joint aspiration. In the 6 patients not treated with antibiotics due to low index of suspicion of septic arthritis, synovial fluid and blood cultures were negative. Microbiology advice was sought in 10/20 (50%) of cases by the admitting teams but the timing of this advice is unclear.

**Conclusions:** Despite the provision of 24 h rheumatology and orthopaedic cover at UCLH, we found a significant delay in acute medical firms seeking specialist advice on the management of patients with acute, hot swollen joints with subsequent deviation from BSR guidelines. Consequently, we plan to increase awareness of these guidelines amongst medical firms at UCLH.

**Disclosure statement:** All authors have declared no conflicts of interest.

### 74. A PROSPECTIVE AUDIT OF THE DIAGNOSIS AND MANAGEMENT OF HOT SWOLLEN JOINTS IN ADULTS AT A DISTRICT GENERAL HOSPITAL

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**Background:** Hot swollen joint is a common presentation and has a wide differential diagnosis of which the most serious is septic arthritis

(SA), with a significant mortality and morbidity in case of inappropriate management. Yet this treatable medical emergency is often treated sub-optimally leading to adverse consequences. This audit has been undertaken to assess our practice against the joint BSR and BHP, BOA, RCGP and BSAC guidelines published in 2006.

**Methods:** Data have been collected prospectively for all patients either admitted with less than 2 weeks history of hot swollen joint or developing this condition as an inpatient over 1-year period. Audit standards suggested in the guideline has been the prime focus of this audit.

**Results:** A total of 32 patients presenting with hot swollen joints have been audited. Out of these, 13 patients were diagnosed to have septic arthritis (SA) whereas 19 patients had another diagnosis (5 had pseudogout, 4 had gout, 4 had seronegative arthropathy, 3 had soft tissue infection, 1 had osteoarthritis, 1 had haemarthrosis and 1 had no diagnosis). Out of 13 patients with septic arthritis, 8 were males and 5 were females. Out of 19 patients with another diagnosis, 8 were males and 11 were females. The mean age of patients with septic arthritis was 71 (range 43–94 years). The mean age of non-septic arthritis patients was 66 (range 24–100 years).

Out of 32 patients, 22 patients (8 SA and 14 non SA) had their joint aspirated prior to antibiotics. 10 patients (5 SA and 5 non SA) failed to have their joints aspirated prior to antibiotics due to various reasons (1 needle-phobic, 1 had obvious discharging pus, 2 went straight to theatre, 1 had cellulitis, 1 was suspected to have some injury and no reason documented in 4 patients).

Out of the 13 patients with SA, 5 were managed by rheumatologists and 8 by orthopaedic surgeons. 2 of these 13 patients had prosthetic joint SA and therefore were managed appropriately by orthopaedic surgeons. In the 13 patients with SA, appropriate cultures were sent in all patients (either from the initial joint aspiration or from later surgical drainage), CRP was measured at baseline in all patients, ESR was measured at baseline in 3 patients and all patients had serial measurements of CRP and white cell count but not ESR. The initial antibiotic choice was in keeping with national or local guidelines in 10 out of 13 patients and there was a delay in management in 2 patients with SA. 1 of these patients was initially thought to have osteoarthritis and the other was thought to have a joint injury.

**Conclusions:** This audit has revealed that about a third of patients presenting with hot swollen joint fail to have a joint aspiration prior to starting antibiotics. There is still considerable scope for improvement in our management of hot swollen joints. Doctors working in the 'frontline' should be made aware of these guidelines in order to improve our practice.

**Disclosure statement:** All authors have declared no conflicts of interest.

### 75. PREVALENCE OF EXTRAHEPATIC RHEUMATOLOGICAL MANIFESTATIONS IN EGYPTIAN PATIENTS WITH CHRONIC HEPATITIS C VIRUS INFECTION

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**Background:** Chronic HCV viraemia has been known to provoke a variety of autoimmune-like diseases referred to as extrahepatic manifestations of chronic HCV infection. Egypt has an exceptionally high prevalence of HCV infection, estimated to be between 10 and 15% of its 70 million population. The study aimed at evaluation of the prevalence of extrahepatic rheumatological manifestations of chronic HCV infection in Egyptian patients and its different clinical presentations in a way to illustrate the spectrum of these presentation in the study group.

**Methods:** All chronic HCV patients attending the outpatient clinic of the National Hepatology and Tropical Medicine Research Institute (NHTMRI) through a period of 1 year were interviewed and subjected to a questionnaire to screen those having rheumatological complaints then referred to the rheumatologist for evaluation. Laboratory investigations included complete blood picture, serum transaminases, serum bilirubin, total proteins, serum albumin, serum urea and creatinine, complete urinalysis, oral glucose tolerance test. Serological assay included cryoglobulin profile, rheumatoid factor,