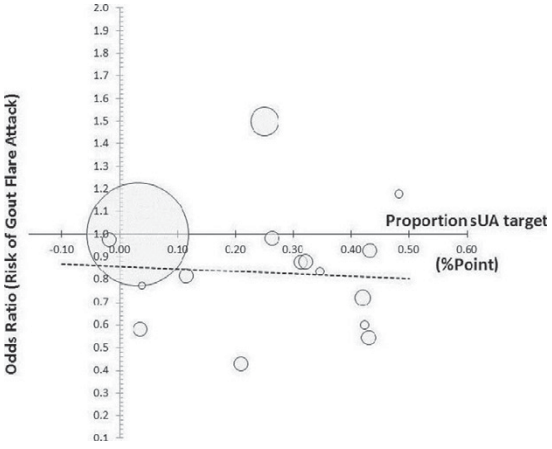
Objectives: To determine the strength of the relationship between SU and the incidence of gout flares and thereby to determine whether SU is a valid surrogate endpoint according to the BSES3 framework.
Methods: A systematic search of Medline via PubMed, the Cochrane Central Register of Controlled Trials, EMBase via OVID, the Institute for Scientific Information Web of Science, and other sources identified relevant studies. Standardised data elements were extracted by 2 independent reviewers (LS, MBM) and disagreements resolved by discussion (RC). Eligible trials were parallel-group, randomised trials of ULT of at least 3 months duration in people with gout. For the meta-regression analysis, a mixed linear model was used to combine the ratio of flare rates between groups (SAS software, v9.4 for Windows). Trials with multiple arms were treated as individual trials, referred to as "randomised comparisons" (i.e., 3-arm trials with 2 active interventions was handled as 2 randomised comparisons). Data was analysed by meta-regression using the between-arm difference in proportion of individuals who achieved target SU (<0.36mmol/L) as independent variable from at 3 months (or 6 and 12 months if 3 month values not available) against flare rate (dependent variable).
Results: After screening 234 abstracts, 82 trials were scrutinized, of which 9 trials (with 16 comparisons) met inclusion criteria. A total of 5,696 people with gout entered into the meta-regression model. The longest RCT included was only 12 months duration. The pooled Odds Ratio (OR) suggested a small but statistically significant favourable association between the active and comparator urate lowering therapies and flare frequency (OR, 0.83; 95% CI 0.70 to 0.99]). Substantial heterogeneity was present (between trial variance: 0.07; 0.03 to 0.30). Meta-regression analysis did not reveal any statistically significant association between the proportion of individuals who achieved target SU and the observed flare rate (P=0.82); the model fit did not improve after inclusion of the covariate into the model (between trial variance: 0.08; 0.03 to 0.33) (Figure).



Conclusions: Substituting surrogate endpoints (proportion achieving target SU) for the important clinical outcome (gout flares) allows conduct of shorter smaller trials. However, based on aggregate trial-level data (meta-regression) an anticipated association between SU and gout flare could not be confirmed. Trial duration may have been too short to observe a reduction in flares and further work using data from long-term extension studies is underway.
Disclosure of Interest: None declared
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OP0268 NURSE-LED CARE VERSUS GENERAL PRACTITIONER CARE OF PEOPLE WITH GOUT: A UK COMMUNITY-BASED RANDOMISED CONTROLLED TRIAL

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Background: Despite increasing prevalence of gout in the UK (1), a variety of barriers result in suboptimal care (1,2) with only 40% of gout patients receiving urate-lowering therapy (ULT), usually at fixed dose without titration to a serum uric acid (SUA) target (1,2). Nurses successfully manage many chronic diseases in the community, and we have shown that when people with gout are fully informed and involved in management decisions uptake of ULT is high and subsequent adherence under nurse-led care is excellent (3).
Objectives: To directly compare nurse-led care to general practitioner (GP) care of people with gout in a 2 year randomised controlled trial (NIHR CRN Portfolio No.12943)
Methods: 517 participants with acute gout in the previous year were identified from 56 local GP practices and randomised to nurse-led or continuing GP care. The nurses were trained about gout and its management according to recommended best practice (EULAR and BSR guidelines) involving full information, addressing illness perceptions, and involving patients in management decisions. Assessments were undertaken at 1 and 2 years. Analysis was intention to treat (last observation carried forward).
Results: Nurse (n=255) and GP (n=262) groups were well matched at baseline for mean age (62 v 64yrs), sex (90% v 89% men), mean disease duration (11.6 v 12.7yrs), mean gout attack frequency in prior year (4.2 v. 3.8), tophi (13.7% v. 8.8%), mean SUA (443 v. 439 μmol/L), mean eGFR (71.5 v. 70.2) and ULT use (40% v. 39%) (all p>0.05). By 2yrs, 22 (8.6%) and 54 (20.6%) participants had discontinued the nurse and GP groups (p<0.001), including 2 v. 8 deaths respectively. Comparing nurse and GP groups at 2yrs: 95% v. 29% had SUA <360 μmol/L (primary outcome); 88% v. 16% had SUA <300 μmol/L; mean (SD) SUA was 252±73 v. 418±106; 97% v. 54% were on ULT; and mean (SD) dose of allopurinol was 470 (140) v. 240 (107) mg/day (all p<0.001). Mean (SD) attack frequency during the 2nd year was 0.33 (0.93) in the nurse v. 0.94 (2.03) in the GP group (p<0.001), and at 2yrs tophi were present in 2.6% (reduced) v. 9.6% respectively (p<002). Although equivalent at baseline, mean (SD) SF-36 norm-based physical component scores were better at 2yrs in the nurse group (41.31 (16.76) v. 37.87 (14.31); p<0.05).
Conclusions: Nurse-led care of people with gout in the UK community can result in high uptake and excellent adherence to ULT over a 2yr period, achievement of target SUA in >9/10 cases and consequent improvements in patient-centred outcomes and quality of life. This study reinforces the benefits of "treat-to-target". Compared to standard GP care this model is likely to be cost effective long-term and merits further consideration.
References:
[1] Doherty M. et al. Ann Rheum Dis 2012;71:1765–70.
[2] Kuo C-F. et al. Ann Rheum Dis 2015;74:661–7.
[3] Rees F. et al. Ann Rheum Dis 2013:72:826–30.
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Disclosure of Interest: M. Doherty Grant/research support from: AstraZeneca, Consultant for: AstraZeneca, Grunenthal, Mallinckrodt and Roche, W. Jenkins: None declared, H. Richardson: None declared, A. Abhishek Grant/research support from: AstraZeneca, D. Ashton: None declared, C. Barclay: None declared, L. Duley: None declared, H. Jones: None declared, M. Santarelli: None declared, A. Sarmanova: None declared, M. Stevenson: None declared, W. Zhang Consultant for: AstraZeneca and Grunenthal
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OP0269 EFFECT OF XANTHINE OXIDASE INHIBITORS ON THE INCIDENCE OF CARDIOVASCULAR EVENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS

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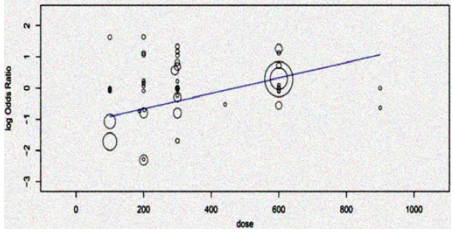
Background: There is evidence that xanthine oxidase inhibitors (XOI) may reduce the risk of major adverse cardiovascular events (MACE) (1,2) and lower blood pressure (3). To date, this evidence is based mainly on observational studies (2).
Objectives: To compare the incidence of MACE, mortality, and total and specific cardiovascular (CV) events in patients enrolled in randomized controlled trials (RCTs) comparing XOI with placebo or no treatment.
Methods: A systematic review (CRD42015016073) searching for RCTs using PubMed, EMBASE, Cochrane Library, Web of Science, and Lilacs databases, and hand searching, was ended in Dec 2016. All RCTs comparing XOIs with placebo or no treatment lasting ≥4 weeks and including only adult individuals were eligible. The primary outcomes were the incidence of MACE (CV death, non-fatal myocardial infarction, unstable angina requiring urgent revascularization, or non-fatal stroke) and mortality; total CV events (TCE), specific CV outcomes, and serious adverse events (SAE) served as secondary outcomes. Associations were tested using the Peto odds ratio (OR) without zero-cell continuity correction.
Results: In total, 81 studies including approx. 11,000 individuals reported extractable data on CV events. The use of XOI tended to be associated with lower incidence of MACE (OR=0.64, 95% CI 0.41–1.01, P=0.056), but not with mortality (0.95, 0.63–1.44). However, there was a significantly reduced incidence of TCE (0.66, 0.54–0.80, P<0.001), especially new/worsening hypertension (0.57, 0.37–0.87, P=0.009), and a trend for reduction in the incidence of new/worsening heart failure (0.74, 0.53–1.04, P=0.086). The incidence of SAE (0.86, 0.71–1.05) did not differ significantly. Subgroup analysis suggested a protective effect for MACE in studies with high prevalence (>50%) of cardiac diseases (0.52, 0.30–0.91, P=0.021). Sensitivity analysis excluding studies at high or unknown risk of bias produced no significant change in results, but reinforced the association with reduced incidence of hypertension (0.26, 0.11–0.60, P=0.001) and heart failure (0.55, 0.32–0.94, P=0.030). Separate analysis of data on purine-like XOI (allopurinol and oxypurinol) confirmed the results of the primary analysis. Exploratory metaregression analysis showed association of dose of allopurinol with higher incidence of TCE (P=0.023, random effects) and SAE (P<0.001, see Figure 1). Accordingly, in the subgroup with doses ≤300 mg/day of allopurinol, a reduction of incidence of MACE (0.36, 0.18–0.68, P=0.002), TCE (0.38, 0.26–0.54, P<0.001), and SAE (0.49, 0.34–0.71, P<0.001) was observed, while the SAE risk increased in doses >300 mg/day (1.39, 1.04–1.91, P=0.047). There was

no association of dose of non-purine-like XOI with incidence of TCE and SAE. Significant statistical heterogeneity was not observed in any test reported here.

Figure 1. Meta-regression analysis of dose of allopurinol versus logarithm of odds ratio (OR) of serious adverse events.



Conclusions: Our data from a meta-analysis of RCTs suggest that XOI reduce the incidence of CV events, an effect possibly related (at least partly) to control of hypertension. However, higher doses of allopurinol (>300 mg/day) may possibly be associated with higher risk of serious adverse events and loss of cardiovascular protection.

References:
[1] Richette et al. Nat Rev Rheumatol 2014;10:654–61.
[2] Singh et al. Arthritis Res Ther 2016;18:209.
[3] Agarval et al. J Clin Hypertens (Greenwich) 2013;15:435–42.

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FRIDAY, 16 JUNE 2017

Low back pain and fibromyalgia

OP0270 LONG-TERM PROGNOSIS IN CHRONIC PLANTAR FASCIITIS BASED ON DISEASE DURATION AND ULTRASONIC CHANGES

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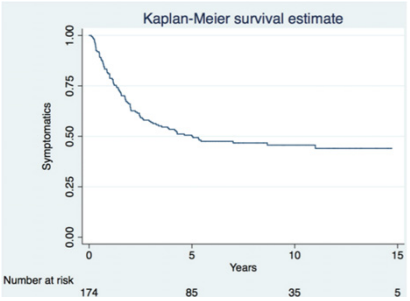
Background: Plantar fasciitis (PF) affects 7–10% of the population over a lifetime but the long-term prognosis is unknown. This study is the greatest within the long-term prognosis of PF and have the longest follow-up time.
Objectives: The aim was to assess the long-term prognosis of chronic PF based on duration of symptoms and ultrasonic changes (tendon thickness, heel spur, echogenecity and heel fat pad) and assess if any baseline cohort characteristics had an impact on the prognosis (sex, BMI, age, smoker status, physical work/sport and bilateral pain).
Methods: At baseline (2001–11) 269 patients were diagnosed with PF based on symptoms and ultrasound findings.
At follow-up (2016) all the participants were invited to participate in the project. Everyone was interviewed and offered a new ultrasound examination of their plantar fascia at both feet.
Results: 174 (65%) participated in the study, 52% women and 48% men and 137 had an additional US examination. 54% of the participants were asymptomatic at follow-up (asymptomatic group) and the mean duration of symptoms were 725 days (range 41–4018). 46% still had symptoms (symptomatic group). The follow-up period was 9.7 years (range 4.7–27.3). The risk of having chronic PF were 45.6% (95% CI 37.9–53.0) 10 years after debut of symptoms (figure 1). A multiple cox regression analysis found that women ($p<0.01$) and participants with bilateral heel pain ($p<0.01$) had a worse prognosis. The hazard rate ratio was 0.49 (95% CI 0.30–0.80) for women (every time 100 men were getting cured pr. year only 49 women were cured pr. year) and 0.33 (95% CI 0.15–0.72) for participants with bilateral heel pain (every time 100 with unilateral pain were cured pr. year only 33 with bilateral pain were cured pr. year). The remaining baseline cohort characteristics (all p's>0.05), tendon thickness (p=0.49) and heel spur (p=0.88) did not have an impact on the prognosis (table 2).
The mean tendon thickness was at baseline 6.9 mm in the asymptomatic group and 6.7 mm in the symptomatic group. The tendon thickness was reduced significantly to 4.3 mm at follow-up in both groups (both p's<0.01). Only 24% in the asymptomatic group had a normal tendon thickness and echogenicity at follow-up (6% in the symptomatic group).
The participants had in average tried 3.8 (range 1–9) different treatment modalities and 93% received an ultrasound guided steroid injection at baseline. 11% of them were permanently cured 1 month after the injection despite symptoms for an average of 334 days' prior the injection. No atrophy of the heel fat pad was found in the sick foot who got the steroid injections compared to the contralateral foot that did not get the injection (p=0.66).
Conclusions: 45.6% had PF 10 years after debut of symptoms.
The asymptomatic participants had in average plantar fasciitis for 725 days.
The prognosis was significantly worse for women and participants with bilateral pain.

Figure 1:
Kaplan Meier survival function for all the participants. The y-axis shows the part who is symptomatic (1.00=100% is symptomatic). And the x-axis is the time in year since debut of symptoms (year 0 = debut of symptoms).



The tendon thickness decreased over time no matter of symptoms and had no impact on the prognosis, neither did heel spur.
Only 24% of the asymptomatic participants had a normal tendon on ultrasound at long-term follow-up.
Ultrasound guided steroid injection did not give atrophy of the heel fat pad in long-term follow-up.
Acknowledgements: The project was financed by The Danish Rheumatism Association and The Research Funds of Hospital Unit Central Jutland
Disclosure of Interest: None declared
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OP0271 CORTICOSTEROID INJECTIONS FOR GREATER TROCHANTERIC PAIN SYNDROME: A RANDOMIZED DOUBLE-BLIND PLACEBO-CONTROLLED TRIAL

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Background: Although small observational studies have suggested that local corticosteroid (CS) injection may be effective in the management of the greater trochanteric pain syndrome (GTPS), no prospective placebo controlled study has been carried out to establish the efficacy of this common intervention.
Objectives: To perform a randomized double-blind placebo controlled trial to investigate the efficacy of local CS injection in the management of GTPS.
Methods: The trial was conducted in the Rheumatology unit of a University teaching hospital in Geneva, Switzerland. Inclusion criteria were lateral hip pain (LHP) for greater than 1 month, a LHP score of ≥4 in the preceding week, failure of another standard treatment (physiotherapy, analgesics, etc.) and typical LHP reproduced by palpation of the greater trochanter (GT). Participants were randomised in a 1:1 ratio to: 1) injection with a combination of local anaesthetic and CS (Treatment group), or 2) injection with normal saline solution (Placebo group). The Treatment group received 4ml of 1% Lidocaine (Rapidocain®) and 1ml of Bethametasone (Diprophos®). The Placebo group received 5ml of sterile saline solution. Injections were performed under ultrasound guidance. The study's predefined primary outcome of interest was the difference in pain intensity at 4 weeks post-injection between the 2 groups. Secondary outcomes included the number of "responders" (pain score improvement of ≥1.5) and the number of patients with low disease activity (LDA) (pain score ≤2.0). Patients were followed up for 6 months.
Results: A total of 46 patients were included and there were no significant differences between the 2 groups at baseline (Table 1). There were no significant differences between the 2 groups in terms of the reduction in pain at one month post-injection, with scores of -1.5 and -2.5 (p=0.23) in the Treatment and Placebo groups respectively. When including all measures in the first 3 weeks and using multilevel regression, there was a marginally significant improvement

Table 1. Baseline patient characteristics

	Active treatment (n=21)	Placebo (n=25)	p-value
Age (years) [SD]	56.6 [14.6]	59.6 [13.1]	0.46
Sex (%, female)	81.0	88.0	0.51
Weight (kg) [SD]	74.4 [15.1]	74.7 [15.8]	0.95
Height (cm) [SD]	163.6 [7.7]	153.6 [32.5]	0.18
BMI [SD]	27.9 [6.1]	28.8 [4.9]	0.59
Pain over past 24 hours	6.1 [1.5]	6.6 [1.8]	0.29
Pain on palpation of GT	6.6 [2.0]	7.1 [1.9]	0.40
Past injection of GT (% yes)	38.1	40.0	0.92
Ostwestry total score [SD]	39.9 [13.1]	39.9 [14.9]	0.99
Womac pain score [SD]	251.4 [80.5]	247.2 [87.2]	0.87
Womac function score [SD]	414.6 [154.9]	366.1 [175.7]	0.33

Except where indicated otherwise, values are the mean (± standard deviation). GT = greater trochanter region.