2025-11-16

This Week in Rheumatology

Ankylosing Spondylitis

I cannot generate a summary from the provided materials. The single paper listed (PMID: 41214168) has its abstract marked as "NaN" (Not Available), and no other papers were included. To create an accurate synthesis of the latest Ankylosing Spondylitis research, I would need the full abstract text and multiple recent studies. Please provide the complete abstracts, and I will generate a concise, clinically-focused summary tailored for a rheumatology audience.

References

- Clinical characteristics of peripheral joint disease in axial and peripheral spondyloarthritis: findings from a multicentre cross-sectional study. by Sariyildiz E, Duruoz MT, Gezer HH, Aktas I, Akar S, Hizmetli S, Sahin N, Akgul O, Melikoglu MA, Sezer I, Ataman S, Nazlikul FGU, Capkin E, Yilmaz F, Kalyoncu U. Rheumatology international. PMID: 41214168

Drugs and Pharmacology

A comprehensive meta-analysis of nine randomized controlled trials (803 patients) demonstrates that biologic DMARDs significantly outperform standard therapy across all pediatric ACR response thresholds in polyarticular juvenile idiopathic arthritis (PolyJIA), with relative risks of 1.37-1.88 for PedACR30-100 responses (all $p<0.001$). Most compellingly, biologics halved disease flare rates (RR 0.56) and tripled time to flare (HR 0.38), though no significant differences emerged for clinical remission or inactive disease endpoints. The safety profile remains reassuring: injection-site reactions predominated among adverse events, serious infections were rare with no tuberculosis cases reported across any trial, and no treatment-related deaths occurred. Etanercept demonstrated a particularly favorable safety signal. These findings solidify biologics as first-line alternatives for MTX-intolerant or refractory PolyJIA patients, though the authors highlight cost-effectiveness ratios exceeding £32,000 per quality-adjusted life year as a critical access barrier. Limitations include heterogeneous ILAR classification criteria across studies and modest sample sizes that may constrain generalizability to broader PolyJIA populations. The analysis incorporates recent tofacitinib and golimumab data, confirming comparable efficacy across agents while underscoring the urgent need for standardized outcome reporting and phase IV real-world safety surveillance.

References

- Efficacy of biologic DMARDs in improving the clinical response of patients with polyarticular juvenile idiopathic arthritis: a meta-analysis of RCTs. by de Freitas PHAG, de Almeida MMG, Simao AMS, Bertol AB, Vijendra B, de Faria BL, Telles CMPF. Advances in rheumatology (London, England). PMID: 41214794

Health Policy

Australian patients initiating biologic or targeted synthetic DMARDs for inflammatory arthritis demonstrate concerning gaps in recommended vaccinations, with low uptake of influenza, pneumococcal, and herpes zoster immunizations documented nationwide. This cross-sectional data linkage study reveals a critical implementation gap in pre-treatment care pathways, highlighting that many patients commence immunosuppressive therapy without adequate protection against preventable infections. For busy rheumatologists, these findings underscore an immediate systems-level opportunity: integrating automated vaccination screening and catch-up protocols into pre-biologic workflow could substantially reduce infection risk in this vulnerable population. The methodology—leveraging nationwide data linkage—provides robust real-world evidence that current clinical practice falls short of guideline recommendations, suggesting that policy-driven quality improvement initiatives may be more effective than individual clinician education alone.

References

- Low influenza, pneumococcal and herpes zoster vaccination coverage in Australian patients commencing a biologic or targeted synthetic disease modifying anti-rheumatic drug for inflammatory arthritis: a nationwide cross-sectional data linkage study. by Wong PK, O'Sullivan M, Deng L. Rheumatology international. PMID: 41231258

Osteoarthritis

Recent research highlights two critical developments in knee osteoarthritis (KOA) management: the efficacy of early non-pharmacological intervention and the underrecognized burden of sarcopenia. A randomized, double-masked trial of 126 older adults with pre-radiographic to mild KOA (Kellgren-Lawrence grade ≤2) demonstrated that transcutaneous electrical nerve stimulation (TENS) combined with home exercise produced clinically meaningful pain reduction exceeding the minimal clinically important difference (2/10 cm on VAS) and significantly improved knee extensor strength compared to sham TENS, though benefits did not extend to gait, physical activity, or mental health outcomes. Notably, the study population was unusually high-functioning, suggesting these findings may not generalize to frail or sedentary patients. This stage-specific efficacy aligns with emerging evidence that structural limitations in advanced OA may blunt TENS effectiveness, reinforcing the importance of early intervention before central sensitization and bone deformity diversify pain mechanisms.

Complementing this intervention data, a comprehensive meta-analysis of 35 studies encompassing 13,528 KOA patients revealed sarcopenia affects 25.1% of

this population, with sarcopenic obesity present in 12.1%. Prevalence escalated dramatically with disease severity (26.0% in KL grade 4 versus 13.0% in grade 2) and was amplified by key comorbidities and lifestyle factors: 28.4% in patients with diabetes, 30.7% in alcohol consumers, 29.8% in smokers, and 35.2% in those with irregular physical activity. Geographic and sex disparities were pronounced, with Asian populations and females showing highest rates. The analysis underscores sarcopenia as a modifiable target, particularly given its strong association with physical inactivity and its potential to create a vicious cycle of muscle atrophy, joint instability, and accelerated cartilage degeneration.

Together, these studies converge on a unified clinical message: muscle health is central to KOA outcomes at all stages. While TENS-enhanced exercise offers targeted benefits in early disease, the high baseline function of participants suggests clinicians should not delay strength-promoting interventions. The sarcopenia data further mandate routine screening and aggressive management of muscle mass and function, particularly in high-risk subgroups with metabolic comorbidities or sedentary lifestyles. Both studies share limitations—short follow-up and selection bias in the TENS trial, and high heterogeneity (I^2=99.1%) with cross-sectional designs limiting causal inference in the meta-analysis—highlighting the need for longer-term, diverse-cohort studies that integrate neuromodulation, exercise, and comprehensive sarcopenia assessment into stage-specific KOA treatment algorithms.

References

- Effects of TENS with home exercise improve pain and muscle strength in older adults with pre-radiographic to mild knee osteoarthritis. by Katagiri N, Kawashima K, Hamasuna M, Motoyama M, Yamaguchi T. Scientific reports. PMID: 41238645
- High prevalence and multifactorial risks of sarcopenia in knee osteoarthritis: a systematic review and meta-analysis. by Chen TX, Yang TJ, Cheng S, Zhang ZL, Liu T. Journal of orthopaedic surgery and research. PMID: 41219738

Psoriatic Arthritis

Error generating summary for Psoriatic Arthritis research.

References

- Dipeptidyl Peptidase-4 Inhibitors Associated with Lower Psoriatic Disease Risk in Type 2 Diabetes: A 13-Year Nationwide Cohort Study with Mechanistic Validation. by Hung CT, Chung CH, Weng TH, Tsai CT, Chien WC, Chang YL. Acta dermato-venereologica. PMID: 41222230

Scleroderma

A landmark Swedish population-based study of 1,720 systemic sclerosis (SSc) patients reveals a doubled risk of hematological malignancies compared to matched controls (HR 2.2, 95% CI 1.4-3.5), with B-cell malignancies showing the strongest association (HR 3.0). The research demonstrates distinct temporal

patterns: myeloid cancers emerge around SSc diagnosis (median 0.1 years), while lymphoid malignancies appear several years later. Notably, men face disproportionately higher risk, and the youngest patients (18-49 years) show the most pronounced relative increase despite low absolute event rates. Essential thrombocythaemia was the most common myeloproliferative neoplasm identified. With 10-year cumulative incidence reaching 2.7% versus 1.2% in controls, these findings support heightened surveillance, particularly for B-cell lymphomas in the early disease course. However, the absolute risk remains modest, warranting targeted screening approaches rather than blanket monitoring. The study's robust registry-based design minimizes selection bias, though lack of medication and serological data limits mechanistic insights into whether disease activity or immunosuppression drives this association.

References

- Haematological malignancies in systemic sclerosis: a population-based nationwide register study. by Gunnarsson K, Annicchiarico L, Ravn Landtblom A, Baecklund F, Andreasson K, Holmqvist M. RMD open. PMID: 41219126

Systemic Lupus Erythematosus

A landmark multinational cohort study challenges the push to tighten glucocorticoid (GC) thresholds in the lupus low disease activity state (LLDAS) definition. Analyzing 40,949 visits from 3,801 SLE patients across 13 countries, researchers directly compared the original LLDAS criterion (GC ≤7.5 mg/day) against a more stringent ≤5 mg/day threshold. The results were striking: both definitions delivered virtually identical protection against adverse outcomes. Patients achieving LLDAS-5 showed 45% reduction in flare risk, 39% reduction in organ damage accrual, and 63% reduction in mortality—statistically indistinguishable from the 44%, 37%, and 59% reductions seen with the standard ≤7.5 mg threshold. Sustained LLDAS over 3, 6, or 12 months performed equivalently regardless of GC ceiling.

The study revealed that the 214 patients (7.5%) who only attained LLDAS>5 mg/day were younger, had higher baseline disease activity, and came disproportionately from lower-income countries, yet experienced no worse outcomes than those meeting the stricter threshold. This suggests the 7.5 mg ceiling captures a clinically meaningful population that would be excluded by a 5 mg limit without tangible benefit. The findings robustly defend the current LLDAS definition against recent guideline recommendations for more aggressive GC tapering, demonstrating that the existing threshold successfully balances attainability with therapeutic efficacy.

For clinical practice, the message is clear: while minimizing GC exposure remains paramount, revising LLDAS to a ≤5 mg threshold would make this validated treat-to-target goal harder to achieve without improving patient outcomes. The definition should remain unchanged to preserve its utility as a clinical trial endpoint and real-world target, though clinicians should still individualize therapy to push below 7.5 mg whenever disease activity permits. This data-driven validation prevents the need to reanalyze historical LLDAS studies and maintains a benchmark that reflects achievable, protective disease control across diverse healthcare settings.

References

- Impact of glucocorticoid dose threshold in definition of lupus low disease activity state: a multinational observational cohort study. by Kandane-Rathnayake R, Hoi A, Louthrenoo W, Golder V, Chen YH, Cho J, Lateef A, Hamijoyo L, Luo SF, Wu YJ, Navarra S, Zamora L, Li Z, Yao H, Sockalingam S, Katsumata Y, Hao Y, Zhang Z, Basnayake BMDB, Chan M, Kikuchi J, Kaneko Y, Takeuchi T, Oon S, Bae SC, O'Neill S, Hassett G, Goldblatt F, Ng KPL, Poh YJ, Tugnet N, Sapsford M, Chan S, Tee C, Tee ML, Ohkubo N, Tanaka Y, Lau CS, Nikpour M, Morand E. Lupus science & medicine. PMID: 41219118

Vasculitis

A landmark Japanese multicentre cohort study (J-CANVAS, n=729) challenges the either/or debate in ANCA-associated vasculitis (AAV) classification, demonstrating that phenotype and serotype provide complementary—not competing—prognostic information. While traditional clinicopathological classification (MPA vs GPA) more accurately stratified all-cause mortality risk (HR 2.53), ANCA serotype (MPO vs PR3) offered distinct insights into organ involvement patterns and relapse propensity. The real breakthrough came from integrating both approaches: MPO-MPA patients carried the highest mortality burden, while PR3-GPA showed the greatest severe relapse risk, and discordant groups like MPO-GPA exhibited unique clinical fingerprints. Unsupervised data-driven clustering further uncovered four novel subgroups that showed limited concordance with conventional classifications, particularly revealing substantial hidden heterogeneity within MPO-ANCA-positive patients. Notably, after propensity weighting, neither phenotype nor serotype predicted differential response to rituximab versus cyclophosphamide induction. These findings underscore that binary classification systems inadequately capture AAV complexity and advocate for integrated, multi-dimensional stratification frameworks to enable truly personalized risk assessment and treatment strategies.

References

- Phenotype, serotype, and data-driven clustering reveal complementary dimensions of heterogeneity in ANCA-associated vasculitis: a multicentre Japanese cohort (J-CANVAS). by Kidoguchi G, Yoshida Y, Omura S, Nakagomi D, Abe Y, Wada M, Takizawa N, Nomura A, Kukida Y, Kondo N, Takagi H, Endo K, Azuma N, Takeuchi T, Fukui S, Kamada K, Yanai R, Matsuo Y, Shimojima Y, Nishioka R, Okazaki R, Takata T, Moriyama M, Takatani A, Miyawaki Y, Shirai T, Dobashi H, Ito T, Matsumoto I, Takada T, Kawahito Y, Ito-Ihara T, Kida T, Yajima N, Kawaguchi T, Hirata S. Rheumatology international. PMID: 41222744