

YEAR IN REVIEW SESSION -22/11/24 HALL B 10.10AM-11-40AM

1) Year in review basic science

-Mouse model showed Sodium gated ion channel 1.7 contribute to OA pain and chondrocyte loss. ProTx 2 (antagonist of sodium gated voltage channel) will be useful in treatment

-Mouse model showed EphB2 deletion ameliorates skin fibrosis in scleroderma. Blocking IL1RAP ameliorates skin and lung fibrosis in scleroderma

-Autoinflammatory cluster will help in personalizing treatment study from single cell transcriptome.

-Altered serum metabolome study will indicate paraneoplastic or concomitant cancer in patients in rheumatic disease

-TNFSF14 drives IL6 and IL1 β in gout and its blocking will ameliorate acute inflammation

-Newer antibody

SMN complex antibody is associated with MCTD

PAH and ILD association is 88 % and predicts high mortality

2) Year in review - Clinical science

-CD19 Car T cell therapy in AIRD- B cell repopulation seen at 4 months and none of the patients were on immunosuppression. However all patients did well with no relapse. CAR T cells are feasible safe and efficacious

-BCMA CD19 compound CAR T trials in SLE . enrolled 13 lupus patients including 2 patients with lymphoma. 11/14 patients achieved LLDAS and 9/13 were in remission and even anti Ro and ANA became negative.

-CAR T cell therapy in RA shows promise

-Occurrence of Lymphoma after CAR T cell therapy- FDA warning

-BiTES: Bi specific T cell engagers kill B cells Trials in refractory RA. Multidrug resistant patients show response.

-BCMA targeted T cell engager therapy in AIRDs

-Teclistamab- induced remission in refractory SLE

-Off shelf CART- allogeneic CART on horizon showed good response in Scleroderma and IMNM patient

-Risk of secondary malignancy with these therapies: 0.1-0.3%

-SI joint radiographic progression over 10 years in axSpA: DESIT cohort: Predictors of progression were male sex, smoking. duration and especially MRI positivity.

-SURPASS trial: Secukinumab vs Adalimumab in radiographic progression: showed superiority of secukinumab over Adalimumab but at 104 weeks no difference in progression

-TRBV9 antibody in Ankylosing spondylitis eliminates only 4 % of T cells but therapy shows improvement- TARGETED IMMUNOTHERAPY

-MANDARA Trial: Benralizumab vs Mepolizumab for EGPA- a. Non inferiority trial. Results show equal efficacy

-Long term data from LoVAS study: Low vs High dose steroids in AAV (without severe GN/DAH) treated with RTX: No difference in 2 arms in relapse but high dose group has higher severe adverse events (7000 mg vs 1800 mg)

-Atrasentan in IgA nephropathy

-Phase 2 trial of Sibeprenlimab in patients with IgA Nephropathy

-MMF initiation in new onset SLE especially with high dsDNA with minor organ involvement shows decrease in Occurrence of new onset nephritis and chance of relapse

-The type 1 and type 2 SLE model -type 1 is inflammatory and 2 is non inflammatory

-Long term effects of Empagliflozin in patients with CKD is decrease in progression to ESRD and death due to CV causes Benefit lasted 2 yrs

- SGLT2 Inhibitor use in Lupus: decrease in LN and long term mortality
- Once weekly Semaglutide in Knee OA found to .decreases pain and inflammation
- Denosumab trial in Hand OA found to have Good response.
- Prevention of RA by ABATACEPT 2 trials: ARIAA was a positive trial and APPIPRA negative trial
- Dazodalipbep trial in Sjogrens, a CD40 ligand antagonist found to decreases dryness and fatigue
- Inebiliziumab in IgG4Rd shower promising results

3) Year in review -Indian research

- There is 60% delay in diagnosis in rheumatoid arthritis
Majority is referred to orthos and GPs
- Morality of lupus is mainly due to the disease activity itself
Most common organ involved which is responsible for mortality is kidneys specially in patients who are undergoing hemodialysis
- Most common infection causing mortality in lupus is pneumonia specially COVID followed by steptococcal
- JAK inhibitors in IIM is helpful as a steroid sparing agent specially helpful in cutaneous improvement
- Takayasu arteritis with T cell subset which are MDR1+ and CD161 dual positivity is a markers of active disease
- MDR1+ is suggestive of steroid resistance takayasu arteritis
- IL9 blockage results in decrease of INF γ TNF α and IL17 and hence can be a good therapy for RA

Dr Amit Dua
Consultant in Rheumatology
Dua' clinic bilaspur and NH Raipur

Dr Ishita Shah
Consultant Rheumatologist
Rajkot

Dr Anirudh Maslekar
DrNB resident
St Johns Medical College
Bangalore