the marked decrease in damage over time and the more pronounced decline in the Biologic era (Figure 1).

Conclusion: Our study provides evidence of the remarkable prognostic improvement obtained with the recent therapeutic advance in JIA.

REFERENCES:

- [1] Solari et al. Arthritis Care Res. 2008;59:1571–9.

Figure 1. Trend in disease damage throughout methotrexate and biologic era.

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THU0656 IMMUNE CHECKPOINT INHIBITORS IN PATIENTS WITH CANCER AND RHEUMATOLOGIC DISEASES: A SYSTEMATIC REVIEW OF THE LITERATURE

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Background: Immune checkpoint inhibitors (ICI) have resulted in unprecedented advances in the treatment of cancer, with remarkable survival benefits, unseen with traditional treatment. While the benefits of ICI have been clearly documented, a myriad of immune-related-adverse events (irAEs) have been recognized in multiple organs and systems, secondary to persistent activation of the immune system.

Objectives: To systematically review the literature and provide an updated summary on adverse events associated with the use of ICI therapy in patients with cancer and rheumatologic diseases.

Methods: Five electronic databases were searched through 2018 with no restrictions. Articles were screened and selected by two independent investigators using a 2-step approach. Case reports, series, and observational studies describing patients diagnosed with rheumatologic disease prior to initiation of ICI for treatment of concomitant cancer were included.

Results: A total of 69 patients in 27 publications were identified. Median age was 65 (38-87) years; 50% were female; 90% had metastatic melanoma; and 64% were receiving anti-cytotoxic T-lymphocyte-associated protein 4 (anti-CTLA-4) antibody. Rheumatoid arthritis was the most common in 64% (n=32). Other rheumatologic diseases included 16 spondyloarthritis (7 psoriatic arthritis, 4 ankylosing spondylitis, 1 reactive arthritis, and 4 unspecified), 8 sarcoidosis, 6 vasculitis (3 eosinophilic granulomatosis with polyangiitis, and 1 each with granulomatosis with polyangiitis, Behcet's diseases, and polymyalgia rheumatica), 2 each with systemic lupus erythematosus and scleroderma, and 1 each with rheumatic fever, Sjögren's syndrome, and myositis. Overall, 73% (n=50) had an adverse event after initiation of ICI; 33% (n=32) had an exacerbation of the

underlying disease, and 55% (n=38) had *de novo* irAEs. Patients with active diseases at ICI initiation seemed to have more disease flare than those with inactive disease (61% vs. 29%; $p = 0.03$), while no differences were observed in *de novo* irAEs (36% vs. 39%). Patients with rheumatoid arthritis were reported to have more flares with anti-CTLA-4 antibody (63% vs. 33%), while those with spondyloarthritis reported more flares with anti-programmed cell death 1 agents (63% vs. 29%); however numbers were small. Patients receiving immunosuppressive therapy at ICI initiation had fewer adverse events than those not receiving treatment (26% vs. 44%). Most flares and irAEs were managed with corticosteroids, and 13% required additional disease modifying anti-rheumatic drugs. Adverse events improved in 64% and did not require discontinuation of ICI therapy. In melanoma patients, disease control rate was 44%. In all patients, no treatment related mortality was reported.

Conclusion: About one third of patients with pre-existing rheumatologic autoimmune disease flared after receiving ICI therapy for treatment of cancer. However, flares and irAEs can often be managed and may not require discontinuation of cancer therapy. Prospective longitudinal studies are needed to evaluate potential differences among diseases and to determine optimal toxicity therapy while conserving antitumor immunity.

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THU0657 ASSOCIATION OF DIET AND SPICES WITH TREATMENT OUTCOME IN ASIAN INDIAN PATIENTS WITH RHEUMATOID ARTHRITIS – A CROSS SECTIONAL STUDY

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Background: Influence of diet on inflammation, specially foods like fish oil, spices like turmeric, capsacin, garlic etc. are reported in published literature. However, a well-designed study on this subject amongst Asian Indian patients is lacking.

Objectives: To analyze whether the type and quantity of intake of various food constituents, with particular reference to Indian spices, makes an impact on the control of disease activity in patients with Rheumatoid arthritis(RA)

Methods: Patients diagnosed as RA by the ACR 2010 criteria and receiving standard triple drug therapy in our clinic between June 2017 and June 2018, for at least one year were enrolled. Disease activity was assessed during the routine OPD visit. They were administered a food frequency questionnaire^[1] pertaining to the quality as well as quantity of food and spice intake. Analysis was done using multivariate logistic regression

Results: A total of 400 patients were included with 86.75% females. 67.75% patients were in disease remission, 10% had mild disease activity and 22.25% moderate to high disease activity; only 18.09% were vegetarians and the rest consumed non-vegetarian food. Median age was 47.99years(SD 10.67),median duration of illness prior to presentation to our clinic was 7years(IQR 4,10), median ESR was 37mm/hr(IQR 23,52), median CRP was 5.34mg/L(IQR 2.04,12.4), and median DAS28CRP was 2.07(IQR 1.64,2.97). Patients with DAS28CRP of <2.6 were compared with those >3.2. Statistically higher consumption of ginger, garlic, turmeric and coriander were noted amongst patients in remission. Similar results were obtained when patients with DAS28CRP of <1.4 were compared with DAS28CRP >5.1. Nonsignificant numerical differences were noted for intake of food constituents like wheat, total pulse, vegetables, fruit, milk and fish

Dietary items	n	DAS28CRP <2.6		DAS28CRP > 3.2		P value
		Quantity in grams	Median (IQR)	Quantity in grams	Median(IQR)	
ginger	244	4.17	(2.67, 6.67)	80	2.08 (1.39, 3.33)	0.0001
garlic	253	4.17	(2.78, 6.67)	78	2.08 (1.67, 3.33)	0.0001
turmeric	267	1.11	(0.71, 1.67)	88	0.83 (0.51, 1.11)	0.0003
jeera	215	0.55	(0.37, 0.83)	64	0.42 (0.28, 0.75)	0.0138
cinnamon	64	0.42	(0.28, 0.55)	24	0.35 (0.25, 0.52)	0.7212
cloves	85	0.42	(0.28, 0.55)	28	0.33 (0.2, 0.45)	0.6754
coriander	230	1.11	(0.67, 1.67)	78	0.67 (0.48, 1.11)	0.0001
pepper	179	0.42	(0.33, 0.67)	57	0.37 (0.28, 0.55)	0.0351
chilli	259	2.08	(1.67, 3.33)	88	1.67 (1.02, 2.82)	0.0023