articular and extra-articular damages and the need for prosthetics and the psychological status.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.1870

FRI0493

THE INTERLEUKIN-1B INHIBITOR CANAKINUMAB FOR REFRACTORY STILL'S DISEASE: LONG-TERM EXPERIENCE IN 50 CONSECUTIVE PATIENTS

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Background: Interleukin-1 (IL-1) is a major mediator of the inflammatory cascade in Still's disease and an established therapeutic target.

Objectives: To assess the efficacy and safety of the IL-1b inhibitor canakinumab in adolescent and adult patients with refractory Still's disease.

Methods: We conducted a retrospective longitudinal outcome study of 50 consecutive patients aged 39 years (median, range 14-72), fulfilling the Yamaguchi disease classification criteria, with active disease despite treatment with corticosteroids (CS) (n=11) and/or methotrexate (n=9) and/or biologics (n=30) [tumor necrosis factor inhibitors (n=13), IL-6 blockade (n=7), abatacept (n=2), anakinra (n=24); ≥1 biologics (n=13)]. Canakinumab 150-300 mg was administered sc, starting every 4 (n=48) or 8 weeks (n=2), for a median of 24 months (range 3-84). Concomitant treatment included CS (n=41), methotrexate (n=12) and leflunomide (n=3).

Results: Complete remission was initially achieved in 78% of patients within a median time of 3 months, irrespective of age at disease onset. Partial clinical and laboratory response was evident in 20%. Canakinumab was discontinued in one patient with resistant disease (primary failure) and in 6 out of 10 initial responders, who relapsed during treatment (secondary failure). Of 39 patients in complete remission, increase in drug administration interval and/or drug dose reduction was attempted in 7, of which only 1 relapsed, whereas drug discontinuation was attempted in 19 patients for a median time of 8 months (range 3-68), of which 8 relapsed. Overall, in half of all disease flares, canakinumab re-introduction or intensification was successful. Canakinumab had a significant CS sparing effect permitting weaning in 21 of 41 cases. Infections (20%, severe 4%) and leucopenia (6%) led to treatment cessation in one patient.

Conclusion: In this largest so far real-life patient cohort with refractory Still's disease, high rates of sustained remission were induced by canakinumab both in adolescent and adult patients.

Disclosure of Interests: Katerina Laskari: None declared, Panagiotis Athanassiou Grant/research support from: MSD, Genesis pharma, Janssen, Consultant of: Roche, Genesis pharma, Janssen, Speakers bureau: MSD, Janssen, Roche, Genesis pharma, Athanasios Georgiadis: None declared, Charalampos Gerodimos: None declared, Georgia Gkoni: None declared, Dimitrios Daoussis: None declared, Theodoros Dimitroulas: None declared, Despoina Dimopoulou: None declared, Chrysoula Iliou: None declared, Ioannis Kallitsakis Grant/research support from: MSD, Speakers bureau: Genesis pharma, Bristol-Myers Squibb, Dimitrios Karamitsos: None declared, Christina Katsiari: None declared, Stamatis-Nick Liossis: None declared, Clio

Mavragani: None declared, CHARALAMPOS PAPAGORAS: None declared, Dimitrios Pikazis: None declared, Ioannis Raftakis: None declared, Theodoros Sarikoudis: None declared, Loukas Settas: None declared, Prodrimos Sidiropoulos: None declared, Despoina Soukera: None declared, Evangelos Theodorou: None declared, Panagiota Tsatsani: None declared, Eleni Tsiakou: None declared, Dimitrios Vassilopoulos: None declared, PANAY-IOTIS VLACHOYIANNOPOULOS: None declared, Georgios Vosvotekas: None declared, Paraskevi V. Voulgari: None declared, Marina Zakalka: None declared, Maria Tektonidou Grant/research support from: AbbVie, MSD, Novartis and Pfizer, Consultant of: AbbVie, MSD, Novartis and Pfizer, Petros Sfikakis Grant/research support from: Grant/research support from AbbVie, Novartis, MSD, Actelion, Amgen, Pfizer, Janssen Pharmaceutical, UCB

DOI: 10.1136/annrheumdis-2020-eular.5217

FRI0494

RHEUMATIC IMMUNE RELATED ADVERSE EVENTS OF CHECKPOINT INHIBITORS: A RETROSPECTIVE REVIEW OF 70 PATIENTS

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Background: Immune Checkpoint inhibitors (ICI) have revolutionized cancer therapy by achieving remarkable survival benefits however, at the cost of a myriad of immune-related adverse events (irAEs)[1]. Rheumatic irAE can develop in 5-10% of patients although the true incidence is unknown given the lack of prospective studies [2]. Symptoms are heterogenous and probably underreported with few data available about their management and outcome [3].

Objectives: To describe the clinical, biological, and radiological features of the largest cohort of rheumatic irAEs from ICI along with their therapeutic management, outcome and follow-up in real-world practice.

Methods: A referral process for emergent rheumatic irAEs was initiated in February 2016 between the oncology and rheumatology departments at the Cleveland Clinic Foundation. All patients were evaluated by authors CC and/or LHC. Patients' characteristics were retrospectively collected from medical charts after IRB approval.

Results: 70 patients referred for one or more rheumatic irAEs between February 2016 and January 2020 were included. 66% were male, median age was 60.8 years. Among them, 24 (34%) had pre-existing rheumatic complaints. Melanoma was the most frequent malignancy (56%). ICI therapy included anti-CTLA4 (40%), anti-PD1/L1 (79%), and dual therapy ipilimumab/nivolumab (41%). Rheumatic irAE occurred in a median 4 months after ICI initiation, with phenotypes including inflammatory arthritis (32 patients), sicca-like symptoms (12), polymyalgia rheumatica-like (7), and myositis (2). Oral, intravenous or intraarticular glucocorticoids (GC) were administered to 54 patients (77%). Of these 54 patients, 22 (41%) required long term GC, 19 had bone density scan and 15 received pneumocystis (PJP) prophylaxis. One PJP case, 1 osteoporotic fracture and 2 avascular necrosis cases were reported. 16 patients received conventional DMARDS (23%) and 9 received biologics (13%). ICI therapy was held for rheumatic irAE in 31% of cases and for another systemic irAE in 29%. Median follow-up was 13.6 months, at end of follow-up 51 patients were still on treatment for rheumatic irAE and 41% of them were still symptomatic despite ongoing treatment.

Conclusion: Rheumatic irAEs are heterogeneous and often chronic requiring prolonged immunomodulatory therapy. Prospective studies are required to define optimal management of rheumatic irAEs that maintain long-term oncologic outcomes.

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Disclosure of Interests: Tiphaine Lenfant: None declared, Leonard Calabrese Consultant of: AbbVie, GSK, Bristol-Myers Squibb, Genentech, Janssen, Novartis, Sanofi, Horizon, Crescendo, and Gilead, Speakers bureau: Sanofi, Horizon,