Features of polymyalgia rheumatica–like syndrome after immune checkpoint inhibitor therapy

We read with great interest the article published by Braaten and colleagues[1] describing inflammatory arthritis (IA) induced by immune checkpoint inhibitors (ICIs) persisting after immunotherapy cessation. With a growing number of patients treated with ICI, more and more immune-related adverse events are described and a classification has been recently proposed for IA under ICI.[2] It questions whether IA under ICI shows distinctive features from well-defined rheumatological conditions. Here, we report a series of 14 patients who developed polymyalgia rheumatica (PMR)–like syndromes under ICI and compared them with a series of 43 patients with classical PMR seen in the same tertiary centre.

We included patients with rhizomelic pain under ICI from our tertiary department of rheumatology (AP-HP, Université Paris-Saclay) and the pharmacovigilance registry of the Gustave Roussy Cancer Institute. The diagnosis of PMR was based on trained clinicians' assessment. Among 14 patients, 11 fulfilled the EULAR/ACR 2012 criteria for PMR. The comparison between PMR-like syndromes and classical PMR showed a difference in sex ratio and a higher frequency of peripheral arthritis in the ICI group (57% vs 28%) (table 1). C reactive protein (CRP) was positive (>5 mg/L) in most cases in both groups: 92.3% and 88.1% in ICI group and classical PMR, respectively. Among the five patients of the ICI group who underwent ^{18}F-FDG PET/CT imaging before rheumatological treatment, three showed rhizomelic peri-articular ^{18}F-FDG PET uptakes associated to a volar FDG uptake at the hands.[3] Thirteen patients received glucocorticoids with eight good responders. Among the five other patients, one received methotrexate, three received tocilizumab (one who responded, one who had primary failure and one who had drug-induced hepatitis) and one healed after ICI disruption.

To sum up, the main finding of this study is the higher prevalence of peripheral arthritis in PMR-like syndromes induced by ICI. The frequency of increased CRP was the same. Lastly, the therapeutic strategies remain the same as what is proposed in classical PMR, but further studies are mandatory to define the optimal treatment strategy and notably the room for biologic disease-modifying antirheumatic drugs.

Table 1 Characteristics of ICI+PMR compared with ICI–PMR

	ICI+PMR (n=14)	ICI–PMR (n=43)
Women (%)	2 (14.3)	26 (39.5)
Patients over 50 years old (%)	13 (92.9)	40 (93)
Peripheral arthritis (%)	8 (57.1)	12 (27.9)
CRP >5 mg/L (%)	12/13 (92.3)	37/42 (88.1)
Median CRP (mg/L)	69 (<5–150)	32 (6–170)
GCs sensitivity (excluding high-dose steroid–dependent patients) (%)	8/13 (61.5)	–

CRP, C reactive protein; GC, glucocorticoids; ICI, immune checkpoint inhibitor; PMR, polymyalgia rheumatica.

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