

Response to: "Immune checkpoint inhibitor-induced inflammatory arthritis persists after immunotherapy cessation" by Braaten *et al*: another point of view' by Cappelli *et al*

We were interested to read the letter by Ceccarelli *et al* regarding their experience with Immune checkpoint inhibitor (ICI)-induced inflammatory arthritis (IA) at Sapienza University.¹ Their findings support that ICI-induced IA is a heterogeneous disease with differing outcomes. The differences in the cohorts studied may also give us insight into the risk factors for persistence in ICI-induced IA. The authors point out one main difference between the cohorts, type of ICI therapy. Indeed, combination anti-cytotoxic T-lymphocyte-associated protein 4 (CTLA-4)/anti-programmed cell death protein-1 (PD-1) therapy was an independent risk factor for persistent IA in our cohort,² and their study included only patients on anti-PD-1 agents. There are several other relevant differences. First, the patients had a shorter duration of ICI use before IA was diagnosed and corticosteroids were started as compared with our study. Duration of ICI therapy was also an independent risk factor for IA persistence in our cohort.² Second, all patients in the study were evaluated deliberately for IA which likely led to earlier diagnosis and potentially milder disease. Disease activity is not specifically reported, but the higher incidence of IA (9.7%) than in any previously published studies suggests that milder disease was included.¹ The need for multicentre, international efforts to characterise longitudinal outcomes for ICI-induced IA is apparent.

Laura C Cappelli ,¹ Clifton O Bingham,¹ Tawnie Braaten,² Ami A Shah¹

¹Rheumatology, Johns Hopkins School of Medicine, Baltimore, Maryland, USA

²Rheumatology, University of Utah, Salt Lake City, Utah, USA

Correspondence to Dr Laura C Cappelli, Rheumatology, Johns Hopkins School of Medicine, Baltimore, MD 21224, USA; lcappel1@jhmi.edu

Handling editor Josef S Smolen

Contributors All authors drafted and edited the response.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Commissioned; internally peer reviewed.

© Author(s) (or their employer(s)) 2020. No commercial re-use. See rights and permissions. Published by BMJ.



To cite Cappelli LC, Bingham CO, Braaten T, *et al*. *Ann Rheum Dis* Epub ahead of print: [please include Day Month Year]. doi:10.1136/annrheumdis-2019-216892

Received 8 January 2020

Revised 9 January 2020

Accepted 9 January 2020



► <http://dx.doi.org/10.1136/annrheumdis-2019-216867>

Ann Rheum Dis 2020;**0**:1. doi:10.1136/annrheumdis-2019-216892

ORCID iD

Laura C Cappelli <http://orcid.org/0000-0003-2795-7059>

REFERENCES

- 1 Ceccarelli F, Botticelli A, Gelibter AJ, *et al*. 'Immune checkpoint inhibitor-induced inflammatory arthritis persists after immunotherapy cessation' by Braaten *et al*: another point of view. *Ann Rheum Dis* 2020. doi:10.1136/annrheumdis-2019-216867. [Epub ahead of print: 06 Jan 2020].
- 2 Braaten TJ, Brahmer JR, Forde PM, *et al*. Immune checkpoint inhibitor-induced inflammatory arthritis persists after immunotherapy cessation. *Ann Rheum Dis* 2019. doi:10.1136/annrheumdis-2019-216109. [Epub ahead of print: 20 Sep 2019].