



OPEN

Author Correction: Abatacept enhances blood regulatory B cells of rheumatoid arthritis patients to a level that associates with disease remittance

Maha Fahad Alenazy, Fatemeh Saheb Sharif-Askari, Mohammed A. Omair, Mohammad S. El-Wetidy, Maha A. Omair, Hussam Mitwalli, Saleh Al-Muhsen, Abeer Al-Masri, Qutayba Hamid & Rabih Halwani

Correction to: *Scientific Reports* <https://doi.org/10.1038/s41598-021-83615-0>, published online 11 March 2021

The original version of this Article contained an error in the Abstract.

“Abatacept, an inhibitor of CD28 mediated T-cell activation, has been shown to be effective in controlling inflammation during rheumatoid arthritis (RA). However, its effects on immune regulatory B and T cells (Bregs and Tregs) has not been fully explored. Thirty-one RA patients treated with abatacept for ≥ 6 months along with 31 RA patients treated with other modalities as well as 30 healthy controls were recruited. Of these 62 RA patient, 49 (79%) were females with a mean age of 54 ± 12 years and disease duration of 10 ± 6 years. The blood levels of Tregs and Bregs and their production of immunosuppressive cytokines, were determined using FACS analysis and Luminex Multiplex assay. Treatment with abatacept significantly enhanced the blood level of IL-35⁺ IL-10⁺ Bregs ($P = 0.0007$). Their levels were higher in the blood of remitted patients ($\text{DAS28-CRP} < 2.6$) compared to the unremitted ones ($P = 0.0173$), 6 months following abatacept treatment initiation. Moreover, abatacept treatment significantly enhanced the blood levels of LAG3⁺ conventional and unconventional Tregs of RA patients. This increase in the blood levels of Bregs and Tregs was accompanied with an elevated serum level of IL-35 and IFN- β in abatacept-treated patients. Therefore, Abatacept efficiency to achieve remittance in RA could be attributed, in part, to its ability to enhance immune regulatory cells, especially IL-135⁺ IL-10⁺ Bregs.”

now reads:

“Abatacept, an inhibitor of CD28 mediated T-cell activation, has been shown to be effective in controlling inflammation during rheumatoid arthritis (RA). However, its effects on immune regulatory B and T cells (Bregs and Tregs) has not been fully explored. Thirty-one RA patients treated with abatacept for ≥ 6 months along with 31 RA patients treated with other modalities as well as 30 healthy controls were recruited. Of these 62 RA patient, 49 (79%) were females with a mean age of 54 ± 12 years and disease duration of 10 ± 6 years. The blood levels of Tregs and Bregs and their production of immunosuppressive cytokines, were determined using FACS analysis and Luminex Multiplex assay. Treatment with abatacept significantly enhanced the blood level of IL-35⁺ IL-10⁺ Bregs ($P = 0.0007$). Their levels were higher in the blood of remitted patients ($\text{DAS28-CRP} < 2.6$) compared to the unremitted ones ($P = 0.0173$), 6 months following abatacept treatment initiation. Moreover, abatacept treatment significantly enhanced the blood levels of LAG3⁺ conventional and unconventional Tregs of RA patients. This increase in the blood levels of Bregs and Tregs was accompanied with an elevated serum level of IL-35 and IFN- β in abatacept-treated patients. Therefore, Abatacept efficiency to achieve remittance in RA could be attributed, in part, to its ability to enhance immune regulatory cells, especially IL-35⁺ IL-10⁺ Bregs.”

This error has now been corrected in the PDF and HTML versions of the Article.

Published online: 13 April 2021



Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

© The Author(s) 2021