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## Infection case of COVID-19 in patients with rheumatic diseases receiving biologic agents in Wuhan, China: A retrospective population-based analysis from a single center

In December 2019, the novel coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) outbreak occurred in Wuhan, Hubei Province, China, and presents a threat to global health. It is an important question to understand whether patients with rheumatic diseases with or without biological agents immunosuppression might be particularly susceptible to COVID-19 and whether immunosuppression affects the progress of COVID-19. We conducted a retrospective population-based analysis assessed the rate and clinical presentation of COVID-19 in rheumatic diseases receiving biologic agents. A total of 717 patients with rheumatic diseases receiving biologic agents admitted to Union Hospital from 2016 to 2019, and visited between January 1st and April 20th, 2020 were enrolled in this study. The result showed that only 1 patient she diagnosed with Ankylosing Spondylitis ten years ago and started using biologics from April 28th, 2019, had infected with COVID-19, thus, representing 0.14% of all the rheumatic patients, and 0.16% of all the patients continued with biological agents. The diagnosed patient was classified as mild type with clinical symptoms such as fever and fatigue and radiologic features similar to other COVID-19 patients.

In our study, only one patient was infected and had a mild illness without a clear history of antiviral treatment. The data suggest that patients with arthritis who use immunosuppressive agents and biological agents do not increase the risk of COVID-19 infection. The similar result was reported by researchers from Italy, Spain [1,2]. The prevalence of COVID-19 infection is not higher than general population. However, other two investigation [3] also in Hubei, China and New York showed an increasing risk in the patients with autoimmune rheumatic disease, and in these two papers RA and AS patients used TNF- $\alpha$  inhibitor did not increase the infection of COVID-19. It

seems that rheumatic diseases with biological agents do not increase the risk of COVID-19 but more research is needed.

### Declaration of Competing Interest

The authors declared that we have no conflicts of interest in this work.

### References

- [1] Michelena X, Borrell H, Lopez-Corbeto M, Lopez-Lasanta M, Moreno E, Pascual-Pastor M, Erra A, Serrat M, Espartal E, Anton S, Anez GA, Caparros-Ruiz R, Pluma A, Trallero-Araguas E, Barcelo-Bru M, Almirall M, De Agustin JJ, Lladós J, Julia A, Marsal S. Incidence of COVID-19 in a cohort of adult and paediatric patients with rheumatic diseases treated with targeted biologic and synthetic disease-modifying anti-rheumatic drugs. *Semin Arthritis Rheum* 2020;50:564–70.
- [2] Quartuccio L, Valent F, Pasut E, Tascini C, De Vita S. Prevalence of COVID-19 among patients with chronic inflammatory rheumatic diseases treated with biologic agents or small molecules: a population-based study in the first two months of COVID-19 outbreak in Italy. *Joint Bone Spine* 2020.
- [3] Zhong J, Shen G, Yang H, Huang A, Chen X, Dong L, Wu B, Zhang A, Su L, Hou X, Song S, Li H, Zhou W, Zhou T, Huang Q, Chu A, Braunstein Z, Rao X, Ye C, Dong L. COVID-19 in patients with rheumatic disease in Hubei province, China: a multi-centre retrospective observational study. *Lancet Rheumatol* 2020;2:e557–64.

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