Tixagevimab/cilgavimab in ANCA-associated vasculitis: a prospective observational study

Sir.

The available data on the impact of COVID-19 on patients with ANCA-associated vasculitis (AAV) who receive immunosuppressive therapy are limited. Overall, the current evidence suggests that patients with AAV on rituximab therapy have a reduced humoral response to vaccines against SARS-CoV-2 and are at increased risk of death from infection (1). Tixagevimab/cilgavimab (Evusheld), combination of fully human long-acting SARS-CoV-2 neutralising monoclonal antibodies, can be used for pre-exposure prophylaxis of COVID-19 in immunosuppressed patients (2-4). In January 2023, the US Food and Drug Administration (FDA) announced that Evusheld is not currently authorised for emergency use in the US due to the predominance of the unsusceptible SARS-CoV-2 variants (5). However, marketing authorisation granted for Evusheld remained effective in the European Union and other countries.

We report our prospective single-centre study of tixagevimab/cilgavimab in patients with AAV. The study was approved by the Ethics Committee of the Sechenov University, Moscow, Russia (protocol #22-21, 09 December 2021). We enrolled 18 consecutive patients (mean age 49.9±15.5 years) with granulomatosis with polyangiitis (GPA) or microscopic polyangiitis (MPA) who received tixagevimab/cilgavimab 150 mg/150 mg (an approved dose at the time of administration) between May 2022 and August 2022 and were followed monthly via scheduled visits or phone-calls for a median of 299 (253-345) days (Table I). Sixteen patients had comorbidities; the most frequent of them were arterial hypertension, obesity and chronic kidney disease. The mean duration of AAV at the time of tixagevimab/cilgavimab administration was 11.9±5.7 years. All patients were treated with immunosuppressive agents and/or glucocorticoids for maintenance (in 16) or induction (in 2) of AAV remission. Noteworthy, 12 (67%) patients were on rituximab therapy. Mild adverse events after tixagevimab/cilgavimab administration occurred in two patients. One patient developed fever, chills, arthralgia and myalgia that resolved within one day after administration, whereas another patient reported medium intensity arthralgia and myalgia that resolved within 2 days.

Table I. Characteristics of 18 patients with AAV.

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<th>Parameters Value</th>
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<tbody>
<tr>
<td>Females, n (%)</td>
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<tr>
<td>Mean age, years</td>
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<td>AAV type, n (%)</td>
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<tr>
<td>Immunossuppressive treatment, n (%)</td>
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<td>Comorbidities, n (%)</td>
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<td>Vaccinated against COVID-19 in the previous 12 months</td>
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| 2 days after tixagevimab/cilgavimab injection in the first patient, and 89 days prior to tixagevimab/cilgavimab in the second patient. The daily dosage of prednisolone at the time of immunisation was 2.5 and 5 mg, respectively. Both patients presented with mild COVID-19. They did not require hospitalisation and fully recovered without specific treatment within 7 and 16 days, respectively. To our knowledge, this is the first prospective study that followed the patients with AAV after tixagevimab/cilgavimab administration. Our data confirm a good safety profile and potential efficacy of tixagevimab/cilgavimab for prophylaxis of COVID-19 in immunosuppressed patients. Overall, the development of tixagevimab/cilgavimab represents an important advancement in our ability to treat and prevent COVID-19, particularly in those individuals who may be at a higher risk of developing severe or prolonged disease or have inadequate immune response to vaccination. Prolonged infection can be associated with relapse of autoimmune disease due to discontinuation of immunosuppressive therapy and increases the risk of spreading the virus and foster new variants (9). Our findings suggest that passive immunisation is a valuable approach to prevention of COVID-19 in AAV patients and may allow to continue treatment with immunosuppressive agents including rituximab that is an important advantage over vaccines requiring temporary withdrawal of immunosuppressive medications (10). Evusheld currently remains authorised in other countries where it is approved for COVID-19 pre-exposure prophylaxis and treatment, including the EU and Japan. Currently, a Phase II/III trial has been initiated to investigate the safety and efficacy of new generation long-acting antibodies (LAAB) in the pre-exposure prophylaxis of COVID-19 among the immunocompromised population (11).

References

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