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Mato et al. Outcomes of COVID-19 in patients with CLL: a multicenter international experience

In the light of advanced age, comorbidities, and immune dysfunction, chronic lymphocytic leukemia (CLL) patients might be under particular risk of poor outcome following COVID-19. The authors of this study analysed outcomes for a large cohort of CLL patients with COVID-19. The study was retrospective, international and included 198 patients with CLL who were diagnosed with symptomatic COVID-19 between 17 February 2020 and 30 April 2020.

In terms of the patients' spectrum, 39% percent of patients had never been treated for their CLL (were subject to watch-and-wait strategy), while 61% had received one or more than one CLL-directed therapy. At the time of COVID-19 diagnosis the therapy included BTK inhibitors (BTKi's), either as monoagent (n = 54) or in combination with other agents (n = 14), as well as the BCL-2 inhibitor venetoclax, with and without anti-CD20 monoclonal antibodies (n = 14). A small proportion of patients were receiving anti-CD20 mAb monotherapies (n = 2), phosphatidylinositol-3-kinase (PI3K) inhibitors (n = 2), a non-BTKi–based novel agent containing combination therapies (n = 1), chemoimmunotherapy combinations (n = 1), or other regimens (n = 2).

During COVID-19 duration 70% of patients received COVID-19 based therapy, such as one or more than one antiviral drug (hydroxychloroquine, lopinavir/ritonavir, remdesivir, or convalescent plasma) or an anti-inflammatory agent (corticosteroids or tocilizumab).

The study revealed following observations:

First, the hospital admissions were required in 90% of CLL cases. CLL patients with symptomatic COVID-19 had a high mortality rate of 37% when they required hospital admissions. This mortality rate was similar, possibly slightly unfavourable, compared with large series of all symptomatic COVID-19 patients that required hospital admission (Figure 1).

The authors found no differences in overall survival (OS) for patients who have received CLL-directed therapy in comparison to those that were the subject of the watch-and-wait strategy. Furthermore, they did not observe a clear protective or adverse effect of BTK inhibitor (BTKi) therapy when compared with patients who did not receive BTKi'.

The authors noted that age over 75 years, underlying chronic renal disease, asthma, diabetes and history of smoking acted as independent risk factors.

Finally, in terms of COVID-19 treatment the authors did not find differences in OS in hospitalised CLL patients who received hydroxychloroquine therapy compared with those

who did not. These findings are consistent with the key findings of the national randomized RECOVERY trial, that tests a range of therapeutic strategies among patients with the progressive COVID-19.

In summary, this is the first large, disease-specific series of individuals with COVID-19 in a defined cohort of hematologic malignancies. Future prospective studies are needed to assess severe acute respiratory syndrome coronavirus 2 infection risk in patients on BTKi therapy.

Figure 1