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Authors' reply to correspondence to "Mortality-related risk factors of inpatients with diabetes and COVID-19: A multicenter retrospective study in Belgium. Ann Endocrinol (Paris). 2023 Aug 31:S0003-4266(23)00685-6. doi: 10.1016/j.ando.2023.08.002"

Authors' reply: The correspondence raised important concerns regarding the optimization of antidiabetic therapy to improve COVID-19 outcomes for people with type-2 diabetes (T2D). In particular, the authors pointed out the additional benefits of glucagon-like peptide 1 receptor agonists (GLP-1 RA) and sodium-glucose cotransporter 2 inhibitors (SGLT2i) beyond glucose control. Recent guidelines for the management of T2D indeed emphasize the use of drugs that promote weight-loss and provide cardiorenal protection: GLP-1 RA and SGLT2i, in association with metformin or not [1]. The authors of the correspondence are therefore concerned about the potential underuse of these drugs in our cohort, since overweight and obesity are associated with worse outcome in people with diabetes and COVID-19 [2,3].

Routine use of metformin, GLP-1 RA and SGLT2i was reported in respectively 61%, 3%, and 6% of the patients in our cohort. In comparison, routine use of metformin and GLP-1 RA was reported in respectively 56% and 9% of patients with diabetes and COVID-19 in France; SGLT2i was not routinely available at the time [4]. In a recent Danish nationwide study, metformin accounted for 39% of all glucose-lowering drug consumption in the overall adult population in 2021, and 7% of this population used metformin in combination with GLP-1 RA or SGLT2i [5]. However, figures for people with T2D are not publicly available in Belgium, and we found no other Belgian data in people with T2D and COVID-19 allowing comparison. Although routine metformin, GLP-1 RA and SGLT2i use in our study may seem lower than expected based on current guidelines [1], these numbers align with those reported from other European studies in patients with T2D, with or without COVID-19 [4,5].

The proportion of patients routinely receiving metformin in our study could be related to acceptable glucose control (median HbA_{1c}, 7.1%), particularly given the median age of 73 years. Another explanation could be the high prevalence of comorbidities, which may have precluded administration. For example, one-third of the patients presented chronic kidney disease. GLP-1 RA and SGLT2i are fully covered by the Belgian public health system in subgroups of people with T2D, in association with metformin. The beneficiary subgroups are determined on the basis of specific cut-offs, which have changed over time, for HbA_{1c} and body-mass index for GLP-1 RA, and of HbA_{1c} as well as glomerular filtration rate for SGLT2i, which substantially restrict the target population [6]. Moreover, GLP-1 RA and SGLT2i cannot both be covered simultaneously. While encouraging the use of such newer yet more expensive drugs, these national rules restrict their use in cases that would otherwise be eligible according to current guidelines [1]. This could, at least partly, underlie the seemingly low proportion of patients using GLP-1 RA and SGLT2i in our study. Interestingly, studies reported lower odds of hospital admission and death in people with T2D and COVID-19 with routine (i.e., pre-infection) use of GLP-1 RA, SGLT2i and metformin [7,8]. Finally, one cannot rule out that people on GLP-1 RA and SGLT2i prior to COVID-19 had lower odds of hospital admission and may have been underrepresented in our study.

The relationship between diabetes and COVID-19 is complex. For example, some studies found worse COVID-19 outcomes in people with T2D and higher HbA_{1c} and/or overweight/obesity [2,3], while others did not [9,10]. In the end, improving COVID-19 outcomes remains an ongoing challenge in people with T2D. Therefore, we fully agree with prioritizing the use of antidiabetic and antihypertensive agents, associated with better COVID-19 outcomes in people with T2D.

Disclosure of interest

The authors declare that they have no competing interest.

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