



## Update on Covid-19 and Diabetes

As the Covid-9 pandemic progresses, there has been a continuous plethora of data being released to social media and the lay press. This can change several times a day and in many cases is false news. Most of the literature relates almost entirely to those hospitalised with the virus, with an attempt to extrapolate in-hospital experience to out-of-hospital care or prevention. In actual fact, the relationship between diabetes and the Covid-19 virus has not changed since my last notification.

Those with diabetes are at no higher risk of contracting the virus but need to be even more mindful of the widely advertised preventive measures, namely social distancing, hand sanitization and wearing a mask.

There have been a number of publications over the past months analysing the outcome of those with diabetes who are admitted to hospital. All of these continue to support the contention that glycaemic control, as measured by the HbA1c, is a key predictive factor of admission and outcomes. A recent publication from the UK has, once again, demonstrated an increased risk of COVID-19 hospitalisation in persons who had undiagnosed diabetes at baseline (defined as A1C  $\geq 6.5\%$ ) and in those with poorly controlled diabetes (defined as A1C  $\geq 8.6\%$ ). Those with poorly controlled diabetes had a 91% increased risk of admission. With increasing A1c, the risk of COVID-19 hospitalisation increased progressively. They conclude that regulation of blood glucose may have a significant role in the immune response to Covid-19. Other studies have highlighted an HbA1c of 7.6%, or even 7%, as being the level above which hospitalisation and mortality risk increases.

Type 1 diabetes.

The key factor for these people, other than the usual preventative measures, is maintaining as good glycaemic control as possible. The advent of the COVID-19 pandemic should be a catalyst to promote Continuous Glucose Monitoring (CGM) in as many type 1 patients as feasible. CGM has been shown in multiple publications to improve glycaemic control significantly, and in our hands CGM has reduced the HbA1c in most of our patients by 1-1.5% (unpublished). The alternative is to promote far more frequent and regular finger-prick testing, up to 8 times a day. Those who, nevertheless, do contract the virus need to be acutely aware that the massive inflammatory response engendered by the infection will result in a tendency for an acute deterioration in diabetes control, making regular testing, CGM if possible, even more essential.

A French study recently published has suggested that the risk of severe prognosis in those with type 1 diabetes is also related to age, with those over 75 years of age having worse outcomes than younger subjects with diabetes.

## Type 2 diabetes

In addition to glycaemic control, there are many factors that place these patients at risk for poor outcomes. These include other comorbidities (hypertension, obesity, CV disease, and pro-coagulative and pro-inflammatory states), age, ethnicity, and gender. Glucose-lowering agents may modulate the risk. Of these multiple comorbidities, obesity seems to be the most dangerous, although hypertension, particularly if inadequately managed, is also a major factor. While improved glycaemic control can and should be stressed, it is clear that a person with obesity will not be able to lose weight rapidly enough to mitigate the risk of obesity. While a medically supervised very low calorie diet can result in a significant weight loss of 10-15kg in a short period, for the majority of patients dietary advice consisting of reduced food intake and moderation should be stressed. This is even more pertinent in the current social isolation environment. When older patients are still largely staying at home, there is a tendency for them to eat excessively from boredom. This needs to be addressed, with regard to both potential further weight gain as well as the effect of this on glycaemic control.

As the pandemic progresses, it may be the ideal environment for us to obtain the buy-in of patients to improve their diabetes management, and this can then be transported into the future.

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