BRIEF COMMUNICATION

Pre-gestational diabetes during the COVID-19 pandemic in Bergamo, Italy

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KEYWORDS

Bergamo; COVID-19; Pre-gestational diabetes

SYNOPSIS

Effective enforcement of lockdown measures, use of technology, and implementation of telemedicine may have significantly reduced the number of diabetic pregnant women who tested positive for COVID-19 in Bergamo, Italy.

The COVID-19 pandemic has caused the proliferation of a highly contagious and frequently fatal pneumonia around the world.[1] COVID-19 has severely affected Italy, and at the onset of this crisis, Bergamo, a city in northern Italy, regularly reported the highest number of cases in the country for many weeks. During outbreaks of infectious disease, pregnant women represent a high-risk population due to their increased susceptibility to infections, particularly when comorbidities such as pre-gestational diabetes (present in 0.5% of pregnant populations) are present.[2,3] Few data are

available on pregnant women with pre-gestational diabetes during the COVID-19 pandemic.

From February 22 to May 17, 2020, all new-onset pregnant women with pre-gestational diabetes (nine with Type 1 [DMT1] and five with Type 2 diabetes) were screened for COVID-19 in the Diabetic and Pregnancy Clinic of Papa Giovanni XXIII Hospital in Bergamo. Their average age was 35±5 years (mean±SD), BMI 29,1±5.6 kg/m^2, A1c 43±8 mmol/mol and diabetes duration 10±8 years (with longer disease duration in DMT1 patients [*P*=0.05]).

All patients used continuous glucose monitoring (CGM) for glucose control and telehealth was implemented in order to monitor glycemic trends at home.[4]

Retrospective observational studies not involving drugs do not require ethics committee approval and written informed consent in our institution.

Two pregnant women with DTM1 had a positive SARS-CoV-2 swab. One patient at 28 weeks of pregnancy with cough was hospitalized for COVID-19 pneumonia and was treated with hydroxychloroquine, antibiotic and antiviral therapy, and antithrombotic prophylaxis. A month later, the symptoms have regressed and the swab has returned negative for COVID-19. Mean daily glycemia, measured by CGM, was higher in both women when compared to that of women with negative COVID-19 swabs (134±4 vs 108±2 mg/dl, *P*=0.03).

Although false negative tests are a possible risk factor, our screening procedure in all patients with pre-gestational diabetes during pregnancy revealed a prevalence of 14% for COVID-19, much less than that of the general population in the Bergamo area, estimated to be around 30–35% (unpublished data from Instituto Superiore di Sanità).

In spite of the small sample size, our results indicate that, after the onset of pregnancy, the combination of lockdown measures with the use of technology (especially CGM) and implementation of telehealth may have contributed to the relatively small number of pregnant women with pre-gestational diabetes who tested positive for COVID-19 in Bergamo, Italy. The observations of the present study could help colleagues in the management of pregnancy in women with pre-gestational diabetes during the COVID-19 pandemic.

AUTHOR CONTRIBUTIONS

ARD designed and coordinated the study, wrote, and revised the manuscript; SG, EC and RB enrolled patients and analyzed data; RT edited and revised the manuscript. All authors have contributed to and approved of the final version of the manuscript.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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