In the News:

   a. Phase II/III clinical trials on-going as well as FDA-approved emergency use IND
      \url{https://www.preprints.org/manuscript/202007.0178/v1}

2. CDC Updates: When to Quarantine. August 16\textsuperscript{th}, 2020 \url{https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/quarantine.html}
   a. At this time it is unclear if people can become re-infected, “data to date show that a person who has had and recovered from COVID-19 may have low level of virus in their bodies for up to 3 months after diagnosis. This means that if a person who has recovered from COVID-19 is retested within 3 months of initial infection, they may continue to have a positive test result even though they are not spreading COVID-19”
   b. Recommendations: a person who has recovered from COVID-19, do not need to quarantine or get tested again for up to 3 months as long as they do not develop symptoms.

Articles:

   \url{https://doi.org/10.2337/dc20-1380}

Background:
• Stress-induced hyperglycemia occurring at hospital admission for acute medical or surgical illness in individuals with no history of diabetes is a worse predictor than diabetes for poor clinical outcomes and mortality.

• In subjects with severe acute respiratory syndrome, at-admission hyperglycemia was an independent predictor for mortality.

• The authors evaluated the impact of at-admission plasma glucose levels in hospitalized COVID-19 patients.

Methods:
- The authors retrospectively analyzed 271 adults with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection consecutively admitted to the University Hospital, Pisa, Italy, from March 20 to 30 April 2020. Clinical and laboratory data first recorded within 36 hours since admission were anonymously obtained from electronic medical records. Based on at-admission glycemic status, they identified three groups: 1) normoglycemia (NG) (<7.78 mmol/L), 2) hyperglycemia and no history of diabetes (HG) (glicemia >7.84 mmol/L), and 3) known diabetes mellitus (DM).

Results:
- The primary end point of the study was in-hospital mortality, and need for mechanical ventilation, admission to intensive care unit (ICU), and adult respiratory distress syndrome were secondary end points.

- Neutrophils were higher and lymphocytes and PaO2/FiO2 lower in HG than in DM and NG patients. DM and HG patients had higher D-dimer and worse inflammatory profile. Mortality was greater in HG (39.4% vs. 16.8%; unadjusted hazard ratio [HR] 2.20, 95% CI 1.27–3.81, P= 0.005) than in NG (16.8%) and marginally so in DM (28.6%; 1.73, 0.92–3.25, P = 0.086) patients. Upon multiple adjustments, only HG remained an independent predictor (HR 1.80, 95% CI 1.03–3.15, P = 0.04). After stratification by quintile of glucose levels, mortality was higher in quintile 4 (Q4) (3.57, 1.46–8.76, P = 0.005) and marginally in Q5 (29.6%) (2.32, 0.91–5.96, P = 0.079) vs. Q1.

- There was no difference in ICU admission or mechanical ventilation between DM and NG groups. Adult respiratory distress syndrome was more common in HG and DM; 45% of HG patients required ICU admission and 33.3% required mechanical ventilation (both P = 0.002). There was no difference in in-hospital secondary infections and duration of hospitalization.
Conclusion:
• Hyperglycemia is an independent factor associated with severe prognosis in people hospitalized for COVID-19. HG subjects had the worst clinical/laboratory profile and worst outcome, with a mortality rate that was twice that of the NG group and 30% higher than in the DM group. Limitation: relatively small size of the three groups and the incomplete set for some inflammatory parameters.


**Background:**
• The natural physiologic state of immune tolerance associated with pregnancy may increase the risk of SARS-CoV-2 infection and subsequent COVID-19 complications
• There is a need to identify treatment options for pregnant women however pregnant and breastfeeding people are frequently excluded from clinical trials
• Optimal dosing based on changes in drug metabolism in pregnancy are needed

**Methods:**

**Results:**
**Systematic Review:** identified 42 case reports, 44 case series, 25 prospective/retrospective cohort studies, 3 government reports, 2 case-control studies (representing total of 11,308 pregnancies). High level of heterogeneity, reporting subject to significant bias or data missing entirely
• 77% of COVID-19 cases occurred in 3rd trimester of pregnancy
• Symptoms: Fewer than 5% were reported as asymptomatic. 79% were asymptomatic-mild-moderate. 21% were severe/critical requiring ICU or intubation
  o Most common symptoms: 24% cough, 18% fever, 13% fatigue, malaise or myalgias.
  o 98% survived to delivery or hospital discharge, 33 deaths and 127 still hospitalized at the time of publication
• Outcomes (only 12% of studies with sufficient data):
  o 96% delivered a live birth (1375/1428 cases)
  o 22 spontaneous miscarriages, 17 elective abortions, 14 stillbirths, 2 ectopic pregnancies
  o 99% of fetuses/neonates survived, reported 8 neonatal deaths
  o No conclusions could be made on maternal-fetal transmission
• Treatments: 106 women received hydroxychloroquine, 39 lopinavir/ritonavir, 13 remdesivir, 13 IL-1 or IL-6 inhibitors, 9 IVIG

**Inclusion of Pregnant women in Clinical Trials**
• 1282 on-going COVID-19 related clinical trials investigating therapeutics in reproductive age adults
  o 65% excluded pregnant or breastfeeding women
  o 68% of hydroxychloroquine and 80% of lopinavir/ritonavir excluded pregnant or breastfeeding women despite routine use in pregnant women with SLE and HIV
  o 48% of convalescent plasma excluded pregnant or breastfeeding women

**Discussion:**
- There is a paucity of data related to pregnant women and COVID-19 particularly related to treatment and outcomes. In the data available maternal and fetal/neonatal survival was 98% and 99% but more complete data is needed.

- Majority of clinical trials evaluating treatments for COVID-19 excluded pregnant and breastfeeding women despite several treatments being routinely used for non-COVID-19 related illnesses during pregnancy.

- Inclusion of pregnant or breast-feeding women in clinical trials should be considered while weighing the potential risk of harm to the fetus/neonate, particularly using pregnancy-specific adaptive clinical trials (similar approach for children).

- Limitations: paucity of data, heterogeneity of studies, overwhelming use of case series, case reports and observational studies leads to high degree of bias, clinical trials not registered in clinicaltrials.gov could have been missed in the analysis.