

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Letters to the Editors ajog.org

infections.¹ This information is corroborated by a systematic review of 108 cases, in which it was found that although the majority of mothers were discharged without major complications, serious maternal morbidity rates were reported.² However, these 2 publications differ from another article in which it was concluded that there were no serious complications—in the observed pregnant women—in addition to those complications already described in the nonpregnant female population.³ To date, the susceptibility of pregnant women to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and its associated complications has been a very controversial topic that remains unresolved.

The authors characterized the current pandemic as an unprecedented global health crisis. As a consequence of this situation, academic circles try to gather as much information about SARS-CoV-2 as possible. The lack of conclusive information regarding the prevention and treatment of SARS-CoV-2 infections prevents the development of a single strategy for the management of the infected population, whether pregnant or not.

However, taking into account that the basis of care for any pregnant woman is to prevent the disease spread by standard interventions, basic health measures must be put in place to prevent minor respiratory complications from becoming fatal. This requires aggressive implementation of an outbreak control and management model as soon as the virus reaches the community. In addition, surveillance of COVID-19 cases should include more detailed information on the health status of pregnant women in addition to maternal and fetal outcomes to ensure accurate data collection.

Fernanda Volpato Laura G. dos Santos University of Southern Santa Catarina Block D 787 Ave. José Acácio Moreira Tubarão, Santa Catarina 88704-240 Brazil lauragoedel1@hotmail.com

Eliane M. dos Santos University of Southern Santa Catarina Tubarão, Santa Catarina Brazil

The authors report no conflict of interest.

This work did not receive financial support.

REFERENCES

- **1.** Rasmussen SA, Smulian JC, Lednicky JA, Wen TS, Jamieson DJ. Coronavirus disease 2019 (COVID-19) and pregnancy: what obstetricians need to know. Am J Obstet Gynecol 2020;222:415–26.
- Zaigham M, Andersson O. Maternal and perinatal outcomes with COVID-19: a systematic review of 108 pregnancies. Acta Obstet Gynecol Scand 2020;99:823–9.
- **3.** Li N, Han L, Peng M, et al. Maternal and neonatal outcomes of pregnancy women with COVID-19 pneumonia: a case-control study. Clin Infect Dis 2020. [Epub ahead of print].
- **4.** Takemoto MLS, Menezes MO, Andreucci CB, et al. The tragedy of COVID-19 in Brazil: 124 maternal deaths and counting. Int J Gynecol Obstet 2020. [Epub ahead of print].
- © 2020 Elsevier Inc. All rights reserved. https://doi.org/10.1016/j.ajog. 2020.11.020

Coronavirus disease 2019 and pregnancy



TO THE EDITORS: We appreciate the interest in our work and the opportunity to respond to the issues raised by Volpato et al. Since the online publication of our paper on February 24, 2020,² data from many additional studies have been published, addressing the effects of coronavirus disease 2019 (COVID-19) on the pregnant woman and her fetus. For example, updates on surveillance data from the United States on COVID-19 and pregnancy were recently published: these data show that among over 400,000 women of childbearing age with symptomatic COVID-19, pregnant women were more likely to be admitted to an intensive care unit, to require invasive ventilation, to receive extracorporeal membrane oxygenation, and to die than nonpregnant women.3 Infants born to these women also seem to be at increased risk: among nearly 4000 infants born to women with COVID-19 during pregnancy in 16 jurisdictions in the United States, infants born to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)-infected women were more likely to be born preterm (12.9% were preterm, compared with a national estimate of 10.2%). These data

are consistent with a large systematic review that suggests that infants born to mothers with COVID-19 are at a 3-fold increased risk of preterm birth and of neonatal intensive care unit admission.⁵ These findings emphasize the importance of implementation of COVID-19 prevention measures in pregnant women and the importance of collecting data on SARS-CoV-2—infected pregnant women and their infants.

Sonja A. Rasmussen, MD, MS
Department of Pediatrics
College of Medicine
University of Florida
1600 SW Archer Rd.
Box 100296
Gainesville, FL
Department of Obstetrics and Gynecology
College of Medicine
University of Florida
Gainesville, FL

Department of Epidemiology College of Public Health and Health Professions and College of Medicine University of Florida Gainesville, FL skr9@ufl.edu

Denise J. Jamieson, MD, MPH Department of Gynecology and Obstetrics Emory University School of Medicine Atlanta, GA

The authors report no conflict of interest.

REFERENCES

1. Volpato F, dos Santos LG, dos Santos EM. Coronavirus disease 2019 and its controversial results during pregnancy. Am J Obstet Gynecol 2021;224:419-20.

- 2. Rasmussen SA, Smulian JC, Lednicky JA, Wen TS, Jamieson DJ. Coronavirus Disease 2019 (COVID-19) and pregnancy: what obstetricians need to know. Am J Obstet Gynecol 2020;222:415-26.
- 3. Zambrano LD, Ellington S, Strid P, et al. Update: characteristics of symptomatic women of reproductive age with laboratory-confirmed SARS-CoV-2 infection by pregnancy status—United States, January 22-October 3, 2020. MMWR Morb Mortal Wkly Rep 2020;69:
- 4. Woodworth KR, Olsen EO, Neelam V, et al. Birth and infant outcomes following laboratory-confirmed SARS-CoV-2 infection in pregnancy-SET-NET, 16 jurisdictions, March 29-October 14, 2020. MMWR Morb Mortal Wkly Rep 2020;69:1635-40.
- 5. Allotey J, Stallings E, Bonet M, et al. Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis. BMJ 2020;370:
- © 2020 Elsevier Inc. All rights reserved. https://doi.org/10.1016/j.ajog. 2020.11.021

Proteinuria in pregnancy: much ado about nothing



TO THE EDITORS: I would like to thank Dr Bartal and colleagues for their excellent expert review regarding proteinuria in pregnancy. I agree with the authors' opinion that there is no strong evidence of the utility of urinary protein assessment in pregnancy. They provide 3 exceptions, 1 of which is "if a woman presents with preeclamptic symptoms such as headache, blurry vision, and epigastric pain and is found to have normal or high normal blood pressures." They suggest that "assessment of proteinuria would help to evaluate a possible diagnosis of preeclampsia." I would like to ask the authors to provide some guidance as to how such a woman would be evaluated or managed any differently if she had proteinuria vs if she did not have proteinuria. I hope their answer will be as specific, practical, and evidence based as their expert review and not just "increased surveillance" or "heightened suspicion."

Although I appreciate that some women may develop complications of preeclampsia without preceding hypertension, we have no evidence that the presence of proteinuria and symptoms of preeclampsia improve prediction in these women. The studies that evaluated the characteristics of women with eclampsia found that not all women have a preceding diagnosis of hypertension, and most have premonitory symptoms^{2,3}; however, many do not have preceding proteinuria. More importantly, eligibility for including cases in such studies starts with the outcome, in this case eclampsia, rather than with normal blood pressure plus symptoms and proteinuria. We do not know how many women with these findings do not develop preeclampsia or any of its complications, and therefore, we would never be able to determine the number needed to treat nor the number needed to harm for any proposed intervention or management decision in

these patients. If we are to recommend urine protein assessment in patients with symptoms of preeclampsia but normal blood pressure, I think the readers of this expert review would benefit from knowing what to do when they receive the results.

Finally, I would like to congratulate the authors on this review, and I hope that it spurs those who develop clinical guidelines to, once and for all, put the universal and reflex assessment of urine protein in pregnancy out of its misery.

George R. Saade, MD Division of Maternal-Fetal Medicine Department of Obstetrics & Gynecology The University of Texas Medical Branch at Galveston 301 University Blvd Galveston, TX 77555-0587 gsaade@utmb.edu

The author reports no conflict of interest.

REFERENCES

- 1. Fishel Bartal M, Lindheimer MD, Sibai BM. Proteinuria during pregnancy: definition, pathophysiology, methodology, and clinical significance. Am J Obstet Gynecol 2020. [Epub ahead of print].
- 2. Schaap TP, van den Akker T, Zwart JJ, van Roosmalen J, Bloemenkamp KWM. A national surveillance approach to monitor incidence of eclampsia: the Netherlands Obstetric Surveillance System. Acta Obstet Gynecol Scand 2019;98:342-50.
- 3. Schaap TP, Knight M, Zwart JJ, et al. Eclampsia, a comparison within the International Network of Obstetric Survey Systems. BJOG 2014;121:
- © 2020 Elsevier Inc. All rights reserved. https://doi.org/10.1016/j.ajog. 2020.11.018