

# Care for Women With Ectopic Pregnancies During the Coronavirus Disease 2019 (COVID-19) Pandemic

Helen V. Toma, MD, MSPH, Tracy Caroline Bank, MD, and Matthew K. Hoffman, MD, MPH

## INTRODUCTION

Since coronavirus disease 2019 (COVID-19) was declared a global pandemic, health care systems have adapted to deal with an influx of COVID-19–related illness while maintaining essential services.<sup>1</sup> We compared rates of ectopic pregnancy rupture at a large tertiary care center before and after COVID-19 achieved pandemic levels.

## METHODS

We performed a retrospective observational cohort study of women treated for ectopic pregnancy in Newark, Delaware. We obtained ChristianaCare Institutional Review Board approval (CC# 40111).

Patients cared for between March 2019 and February 2020 were in the PRECOVID group, and those seen between March 2020 and June 2020 were in the COVID group. Patients were identified and data extracted from the electronic medical record. Cases were confirmed through manual chart review. Race and ethnicity were self-reported in the electronic medical record.

The primary outcome was the rate of presentation with a ruptured ectopic pregnancy. Additional outcomes examined included rates of blood transfusion, presenting  $\beta$ -hCG levels, resolution using medical treatment, estimated blood loss, and hemoperitoneum at the time of surgery (Appendix 1, available online at <http://links.lww.com/AOG/C287>). Detailed methods

are reported in Appendices 2 and 3, available online at <http://links.lww.com/AOG/C287>.

## RESULTS

Our cohort included 198 women with ectopic pregnancies: 62 in the COVID group and 136 in the PRE-COVID group. Demographics for patients were similar between the two groups, except for ethnicity (Table 1).

Most patients were treated surgically (64%). There was a statistically significant increase in ruptured ectopic pregnancies during the COVID-19 pandemic period (81% vs 60%, relative risk [RR] 1.34, 95% CI 1.06–1.7). The rate of methotrexate treatment failure was similar (19% vs 13%, RR 1.47, 95% CI 0.50–4.36). Of note, the methotrexate protocol did not differ before and during the COVID-19 pandemic period. There was a nonstatistically significant increased rate of blood transfusions in the COVID-19 pandemic period (28% vs 11%, RR 2.48, 95% CI 0.95–6.47).

## DISCUSSION

Our study showed a concerning increased rate of ruptured ectopic pregnancies during the COVID-19 pandemic period. This is in line with studies from Northern Italy and New York that reported similar findings.<sup>2,3</sup> If women avoid seeking medical care early in pregnancy owing to fears about COVID-19, methotrexate treatment may be more likely to fail, leading to increases in morbidity and mortality.

Limitations of our study include those inherent to an observational retrospective study, including the inability to draw causal inferences. Additionally, it is possible that women who presented with ruptured ectopic pregnancies did not originally follow-up with previously recommended instructions. Finally, this is a single institution study that may not be generalizable to other populations.

Concerns about late presentation to care during the COVID-19 pandemic have been described in numerous specialties, including surgery, cardiology, and pediatrics,

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From the Department of Obstetrics & Gynecology, ChristianaCare, Newark, Delaware.

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Corresponding author: Helen Toma, MD, MSPH, Department of Obstetrics & Gynecology, ChristianaCare, Newark, DE; email: [helen.v.toma@christianacare.org](mailto:helen.v.toma@christianacare.org).

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### Financial Disclosure

The authors did not report any potential conflicts of interest.

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**Table 1. Demographics of Women Treated for Ectopic Pregnancies**

	All (N=198)	Group		P
		PRECOVID (n=136)	COVID (n=62)	
Age (y)	30.7±5.9	30.8±5.8	30.6±6.2	.84
Ethnicity				
Hispanic	20 (10.1)	18 (13.2)	2 (3)	.02
Non-Hispanic	177 (89.4)	118 (86.8)	59 (95)	
Unknown	1 (0.5)	0	1 (2)	
Race				
Black	96 (48.5)	65 (47.8)	31 (50)	.07
White	80 (40.4)	52 (38.2)	28 (45)	
Asian	10 (5.1)	7 (5.2)	3 (5)	
Other	12 (6.1)	12 (8.8)	0	
Insurance				
Government	65 (32.8)	47 (34.6)	18 (29.0)	.69
Private	117 (59.1)	79 (58.1)	38 (61)	
None	16 (8.1)	10 (7.4)	6 (10)	

Data are mean±SD or n (%) unless otherwise specified.

raising concerns that a worrying trend is emerging.<sup>4–13</sup> Our data suggest that women may be delaying care owing to concerns about COVID-19 exposure and presenting in more critical condition. Although it is important to continue to encourage the public to practice social distancing measures, it is equally important to encourage patients to present for care if they experience worrying symptoms. Efforts to educate patients through social media campaigns, access to urgent care telemedicine, and other strategies may help overcome these challenges. Monitoring the indirect effects of COVID-19 on health outcomes not related to virus infection remains important as the pandemic continues.

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