



Change in ectopic pregnancy presentations during the covid-19 pandemic

1 | INTRODUCTION

As the COVID-19 pandemic continues on into its 6th month since the virus was first reported in the United States,¹ physicians and patients alike are faced with unique challenges as providers across all subtypes aim to decrease exposure risk and comply with social distancing. The obstetrical population specifically has been faced with distinctive obstacles, including multiple interactions with their providers from early in their first trimester, when a sonogram is performed to confirm intrauterine pregnancy, all the way until delivery 40 some weeks later. That initial antenatal visit, after a positive home pregnancy test, is crucial to ensure the diagnosis of an intrauterine pregnancy. Traditionally, this initial visit occurs 2-6 weeks after a positive home pregnancy test, therefore effectually placing the gestation anywhere from 6 to 10 weeks in age at the time of the first antenatal visit.²

The alternative to an intrauterine pregnancy is a pregnancy of unknown location, which is a temporary diagnosis and implies a viable intrauterine pregnancy, a non-viable intrauterine pregnancy or an ectopic pregnancy. Ectopic pregnancies traditionally occur as a result of incorrect implantation of an early gestation, most commonly in the fallopian tube.² The annual rate of ectopic pregnancies is about 1% and 2% of that of live births in the United States, although it may be as high as 4% in pregnancies involving assisted reproductive technology.^{2,3} These rates can be even higher in women who have history of PID, previous history of ectopic pregnancy, hydrosalpinx or tubal sterilization.^{4,5} A ruptured ectopic pregnancy is one of the most common gynaecological emergencies and accounts for 10% of all pregnancy-related deaths.⁶ Death from a ruptured ectopic pregnancy is between 0.1% and 0.3% in developed countries.² Despite medical advancement and developments in diagnosis and management, ruptured ectopic pregnancy continues to be a significant cause of pregnancy-related morbidity and mortality. Management of ectopic pregnancies includes IM administration of Methotrexate with serial monitoring of B-hcgs or surgical management in the form of laparoscopic salpingectomy.⁷

At our university-affiliated community-based hospital in the Upper East Side of New York City, we treat on average approximately 50 ectopic pregnancies a year with either medically or surgical intervention. During the 2019-2020 interval, prior to the start of the COVID-19 Pandemic, we saw and treated 51 ectopic pregnancies presenting to our emergency room, corresponding to an average of 4.2 ectopic pregnancies a month. Of these, 76% (39) were treated

medically with Methotrexate and monitored with serial b-hcg, while 23.5% (12) were managed surgically after either presenting with signs and symptoms of ectopic rupture (hypotension, drop in haematocrit, acute abdomen) or after failed initial medical management.

Between March 15th and May 17th, 2020, during the height of the COVID-19 Pandemic in New York City, a total of 12 ectopic pregnancies were evaluated and treated in our emergency room. More importantly, 83% (10) of these women were haemodynamically unstable at presentation and required urgent surgical management. Only 16% (2) patients had previously known their diagnosis and failed medical management with Methotrexate. One of them was stable at the time of the salpingectomy and one of who came in unstable with a ruptured ectopic.

In just 2 months, we have nearly reached our annual ruptured ectopic pregnancy rate from the previous year. This report describes a dramatic increase in the diagnosis and management of ectopic pregnancies encountered within just 2 months at our institution, with a markedly increased number of ruptured and unstable patients at time of the initial diagnosis. When compared to the previous year, it is critical to note this increase, as the women who presented with ruptured ectopic pregnancies were completely unaware of their diagnosis, and only knew that they had a positive pregnancy test at home.

The increase in undiagnosed ectopic pregnancies cannot be ignored as the Covid-19 Pandemic continues. As obstetrician gynaecologists, our aim is to highlight a potential concern that our patients may face in the time of COVID-19 in order to capitalize on these lessons to reduce patient morbidity and mortality. These data provide both an important reminder and a key opportunity for all OB/GYN providers to strongly consider seeing and evaluating newly pregnant patients in the office in an effort to diagnose the location of a patient's new pregnancy during these trying times. Moving forward, the authors plan to continue to research and review if these trends will continue or return back to normal rates and treatment plans as the Pandemic continues.

DISCLOSURE

The authors report no conflicts of interest.

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