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Opinion

The Impact of Corona Virus on Management of Ectopic Pregnancy

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Since January 2020, the novel virus of corona virus families, COVID-19, has been infecting people and many countries are still in the acceleration phase of this pandemic. COVID-19 is an RNA virus, respiratory pathogen that affects upper and lower respiratory system. SARS-cov2 RNA has also been detected in blood and stool specimens of people diagnosed with COVID-19, but there is not enough data on how does the virus transfers to these specimens. Due to the theoretical aerosolization risks and highly contagious human to human form of the illness, most surgeons have limited their surgeries and changed their policy for patient management [1-3].

During this pandemic, most obstetrics & gynaecologist focused on women with normal pregnancy and studied the complications COVID-19 may cause for both mother and fetus. However, the whole period of pregnancy and complications for example in the first trimester are equally important and should be studied in detail. In this paper, we focus on Ectopic pregnancy (EP) because EP is the major cause of maternal morbidity and mortality. Surgery, administration of Methotrexate (MTX) and expectant management are three approaches to treat the ectopic pregnancy [4]. Surgery is required when emergency treatment is indicated (e.g. in case of hemodynamically unstable and suspected tubal rupture) or when contraindication of MTX administration exists. Surgical treatment has some advantages such as no need for prolonged monitoring of patient and less time for ectopic pregnancy resolution [5].

The second method of treatment is through MTX administration. MTX is a chemotherapy agent that act as folic acid antagonist. It has a direct toxic effect on hepatocytes and is renally excreted. Stomatitis and conjunctivitis are the most common adverse effect of its use while suppression of bone marrow, gastritis, enteritis, pneumonitis and elevated liver enzymes are rare side effects. MTX treatment could be a single or multiple- dose protocol. Single dose therapy is recommended because it is less expensive and there is no need for intensive patient monitoring and leucovorin administration. However, some authors believe that multiple-dose regimen has higher success rate but causes more adverse effects [6,7]. Overall, ectopic tubal pregnancy resolution rate is approximately 90% for both single-dose and multiple-dose protocols [6-9]. Finally. in stable and compliant patients who had tubal pregnancy <3.5cm in size and no fetal Heart Rate (FHR), medical therapy is chosen.

There is not strong evidence favouring use of single dose MTX versus surgical intervention or vice versa. In two studies, single dose MTX was overall less successful in resolving pregnancy than laparoscopy salpingostomy but tubal potency and subsequent uterine pregnancy rates were the same [10]. We believe that during COVID-19 pandemic, management of EP needs some changes. 3-7 days hospitalization is common for medical treatment and in rare cases, two or three doses of drug may be needed if the patient doesn't respond to the medication. In addition, emergency surgery and blood transfusion or even ICU admission may be needed due to rupture of the tube. In addition, MTX is a chemotherapy agent that may affect the immune system of patients.

As a result, we believe that these patients could theoretically be at a higher risk for COVID-19 infection during this pandemic compared to patients that have been chosen for elective surgery.

According to this opinion, during the last two months, from March 1st to April 20th, we had 13 cases of EP. Elective surgery was performed on two patients because they had EP with FHR and these patients discharged the day after surgery. Expectant management was recommended for two patients because they had positive βhCG without any gestational sac in uterine cavity. The adnexal mass and βhCG titrage of these patients dropped in 48 hours and were discharged on the third day. MTX was administered for 9 of them. Most patients stayed at the hospital for 7 days and one of them received the second dose of MTX. 14 days after discharge, we called and asked them about the symptoms of COVID-19.

Unfortunately, one patient was infected; a 26-year-old woman without any past medical history with tubal pregnancy that received single dose of MTX (80mg/m^2), stayed 7 days at the hospital, and discharged in well condition. Four days after discharge, she was febrile with dry cough, headache and myalgias. She went to COVID-19 centre and a nasopharyngeal aspirate sample for real time RT-PCR diagnostic was positive for COVID-19. We don't know how she was infected and whether MTX therapy affected the process or not. What we know is that in elective surgery for EP, we can shorten the stay at the hospital. In addition, there is no need for use of the MTX and blood transfusion or ICU admission. At this time, no clinical EP-specific data on COVID-19 is available, but we can state that each decision requires an individualized risk/benefit assessment. The aim should be to protect EP patients without compromising their outcome.

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