

The use of ultrasonography in pregnancy in the current pandemic of Zika virus

Sankalp Yadav^{1,*}, Gautam Rawal²

¹General Duty Medical Officer- II, Dept. of Medicine & TB, Chest Clinic Moti Nagar, North Delhi Municipal Corporation, New Delhi, ²Attending Consultant, Dept. of Respiratory Intensive Care, Max Super Specialty Hospital, Saket, New Delhi

***Corresponding Author:**

Email: drsankalpyadav@gmail.com

Keywords: Newborn; Ultrasonography; Zika virus

The world is facing a pandemic in progress due to an emerging arbovirus of the Flaviviridae family called Zika virus (ZIKV)^[1]. ZIKV is a mosquito-borne flavivirus^[2,3]. The paucity of literature and non-availability of clear guidelines has led to panic, especially among the pregnant women. The current situation in some of the countries is so grave that the health advisors have even asked to postpone the pregnancy to avoid the cases of fetal anomalies^[4]. And the fetal anomaly that has raised alarms worldwide is the microcephaly^[5].

The countries with ZIKV cases on the rise are yet to develop any clear management or prevention plan so as to counter the microcephaly and other birth defects in the newborns. The Centers for Disease Control and Prevention (CDC) has issued certain guidelines that include the use of ultrasonography (USG) to detect the fetal anomaly early in pregnancy^[6]. However, this is only the interim way and is not backed by scientific data based on large scale studies, which will establish the fact that the USG is a very sensitive and specific way to predict the fetal outcomes. In a prenatal study conducted earlier in the absence of ZIKV the USG was found to accurately predict the microcephaly only in 57% of the cases as compared to the total neonatal microcephaly^[6].

The fetal USG is a normal routine exercise in obstetrics and is performed between 18-20 weeks of gestation^[6,7]. At this stage the fetal anomalies like microcephaly can be detected, but the same is difficult due to fetal motion and position^[6]. Thus, the exact time to conduct an ultrasound screening for fetal microcephaly is not known. Also, in such cases where the USG is unable to detect any fetal anomaly the presence of other findings like intracranial calcifications before 22 weeks could well be a predictive indicator. The CDC recommends that the ideal time to perform USG to detect fetal anomalies in ZIKV infected countries could be around late second or early third trimester^[6]. Besides, the frequency of USG can be increased in the ZIKV afflicted countries, so that the diagnosis of ZIKV could be predicted and such women could be offered other diagnostic tests like the amniocentesis^[6]. The diagnosis of the fetal microcephaly due to ZIKV is established by early USG findings supported by amniocentesis and RT-PCR of the amniotic fluid to detect the ZIKV RNA^[6].

The USG is the safe method and has been a routine part of the pregnant women's check-up. If used appropriately than it has been considered as safe for the fetus, mother and the neonates by the various well known medical organizations (American College of Radiology, Society of Maternal and Fetal Medicine, and the American College of Obstetricians and Gynecologists)^[6]. The use of MRI is not indicated in the routine obstetrics practice unless there is a rare high risk pregnancy and the routine USG findings needs correlation to make the diagnosis^[6]. Thus the use of USG to predict any congenital anomaly in the fetus is absolutely indicated and if required the frequency could be increased for early diagnosis and management especially in the areas of ZIKV infection. Besides, the proper distribution of healthcare information on ZIKV is the duty of all and thus, all the collaborators i.e. public and private including the NGO's like HIFA2015, etc. should play an active and an important role^[8-11]. If all the stakeholders do not work in unison, then the effects of an emerging virus like ZIKV on the countries with poor health care budget and with low per capita income will be really devastating^[12-18].

Conflicts of interest: None declared

Acknowledgements: None

References

1. Yadav S, Rawal G, Baxi M. Zika Virus- A pandemic in progress. *J Transl Intern Med.* 2016;4(1):42-5.
2. Hayes EB. Zika virus outside Africa. *Emerg Infect Dis.* 2009;15(9):1347-50.
3. Campos GS, Bandeira AC, Sardi SI. Zika virus outbreak, Bahia, Brazil. *Emerg Infect Dis.* 2015;21(10):1885-6.
4. Reuters Staff. El Salvador Urges Against Pregnancies Until 2018 as Zika Virus Spreads. Available at: <http://www.scientificamerican.com/article/el-salvador-urges-against-pregnancies-until-2018-as-zika-virus-spreads/>. Accessed March 11, 2016.
5. Fauci AS, Morens DM. Zika Virus in the Americas — Yet another arbovirus threat. *N Engl J Med.* 2016;374:601-4.
6. CDC. Questions and answers for healthcare providers caring for pregnant women and women of reproductive age with possible Zika virus exposure. Available at: <http://www.cdc.gov/zika/hc-providers/qa-pregnant-women.html>. Accessed March 11, 2016.
7. 18-20 Week Screening Pregnancy Ultrasound. Available at:

- http://www.insideradiology.com.au/pages/view.php?T_id=68#.Vtrstfl97IU. Accessed March 11, 2016.
8. Yadav S, Rawal G. Healthcare information for all-Is it achievable? *Int J Sci Res Rev*. 2015;4(1):101-5.
 9. Yadav S, Rawal G. The HIFA and the Health Phone: Laying the foundation for combating malnutrition in India. *Int J Health Sci Res*. 2015;5(7):368-71.
 10. Yadav S, Rawal G. Self-medication practice in low income countries. *Int J Pharmaceut Chem Anal*. 2015;2(3):139-42.
 11. Yadav S, Rawal G, Baxi M. Zika Virus: An Emergence of a New Arbovirus. *J Clin Diagn Res*. 2016;10(7):DM01–DM03.
 12. Yadav S, Rawal G. Counterfeit drugs: Problem of developing and developed countries. *Int J Pharmaceut Chem Anal*. 2015;2(1):46-50.
 13. Yadav S, Rawal G. Swine flu-Have we learnt any lesson from the past? *Pan Afr Med J*. 2015;2:118.
 14. Yadav S, Rawal G, Baxi M. Plagiarism-A serious scientific misconduct. *Int J Health Sci Res*. 2016;6(2):364-66.
 15. Rawal G, Yadav S, Kumar R, Singh A. Zika Virus: The mosquito menace continues. *Indian Journal of Immunology and Respiratory Medicine*. 2016;1(1):9-11.
 16. Yadav S, Rawal G. Vanishing Lung Syndrome (VLS). *Indian Journal of Immunology and Respiratory Medicine*. 2016;1(1):25-6.
 17. Yadav S, Rawal G, Baxi M. An overview of the latest infectious diseases around the world. *Journal of Community Health Management*. 2016;3(1):41-3.
 18. Yadav S, Rawal G. The novel concept of creating awareness about tuberculosis at the metro stations. *Pan Afr Med J*. 2016;23:228.