Zika virus infection and pregnancy: Issue for further concern

Dear Editor,

As noted in the editorial, 'Zika virus infection' is an important public health problem, and there are many concerns in obstetrics. The teratogenic effect of the virus is confirmed and this leads to many discussions on pregnancy management. The important issues for discussions are (a) how to prevent pregnant women from being infected, (b) how to early detect infection, (c) how to monitor the effect on the fetus in utero and (d) how to manage the identified cases post diagnosis. Many guidelines are available, but the practice is still controversial.

Adding to the general issues, there are some specific points that are little mentioned. First, the effect of infection in pregnancy is usually not mentioned. Zika virus infection can cause Guillain-Barré syndrome, but there is no report of this problem in pregnant women. While there are many cases of abnormal fetuses, it is interesting that there are no reports of Guillain-Barré syndrome in the mothers.^{1,2} In a report from Latin America, the rate of post-vaccination Guillain-Barré syndrome in the general population is 0.73 per million doses and the rate of adverse effects due to vaccination is higher in pregnant women when compared to other groups.³ The question remains whether there is an unknown biological process in pregnancy that might counteract the pathomechanism of Zika virus-induced Guillain-Barré syndrome. Possible mechanisms include immunological changes associated with pregnancy resulting in protection.

Second, although many Zika virus tests are available and the fetal imaging technology is able to detect abnormality, the issue of how to manage the case remains. The ethical dilemma of abortion has to be managed. Given the global heterogeneity of cultural, religious, legal and resources can influence clinical decision-making, standard practice guidelines should be created at a national/local level that reflect these factors.

Finally, there are epidemiological differences between abnormal neonates born to infected pregnant women in South America and other parts of the world (especially tropical Asia), and this is an interesting topic for further research. In tropical Asia, there are several asymptomatic infected cases⁴ and high immunoreactive rates of Zika virus among the local people,⁵ but there are no reports of abnormal fetuses. The probable reason is the signal that arises from the sheer number of infected cases that have already occurred in such a short period in pregnant women which has not been seen before. Whether host genetic or other factors can additionally contribute will require further study and this may not be possible in non-epidemic situations due to the infrequency of infections.

References

1. Nebbia G and Douthwaite ST. Zika infection: From obscurity to public health emergency. *Obstet Med* 2016; 9: 53–54.
2. Adams L, Bello-Pagan M, Lozier M, et al. Update: ongoing Zika virus transmission – Puerto Rico, November 1, 2015–July 7, 2016. *MMWR Morb Mortal Wkly Rep* 2016; 65: 774–779.
3. Ropero-Álvarez AM, Whitembury A, Bravo-Alcántara P, et al. Events supposedly attributable to vaccination or immunization during pandemic influenza A (H1N1) vaccination campaigns in Latin America and the Caribbean. *Vaccine* 2015; 33: 187–192.
4. Wiwanitkit S and Wiwanitkit V. Afebrile, asymptomatic and non-thrombocytopenic Zika virus infection: don't miss it! *Asian Pac J Trop Med* 2016; 9: 513.
5. Kim S and Rajadhan V. Seroprevalence of Zika virus in Cambodia: a preliminary report. *Adv Lab Med Int* 2016; 16: 37–40.

Viroj Wiwanitkit

Public Health Curriculum, Surindra Rajabhat University,

Surin, Thailand

Email: wviroj@yhoo.com