

# Congenital Zika virus infection and fetal brain abnormalities

**KEYWORDS:** zika ■ ultrasound ■ microcephaly

A 19y old woman was referred to our maternal fetal medicine unit at 27.3 weeks of gestation. Her medical history was notable for a vanishing twin, and a symptomatic Zika virus infection during the first trimester with positive PCR test. Ultrasonographic assessment shows biparietal diameter and cephalic circumference at 2.3 percentile (compatible with microcephaly) (FIGURE 1), severe ventriculomegaly (15mm left and 19mm right side) (FIGURE 2), biorbital diameters at 5<sup>th</sup> percentile (compatible with hypotelorism)(FIGURE 3), cerebellum 29.9mm that corresponds with 26.0 weeks of

gestation, although for this gestational age it's not usually measured (FIGURE 4).

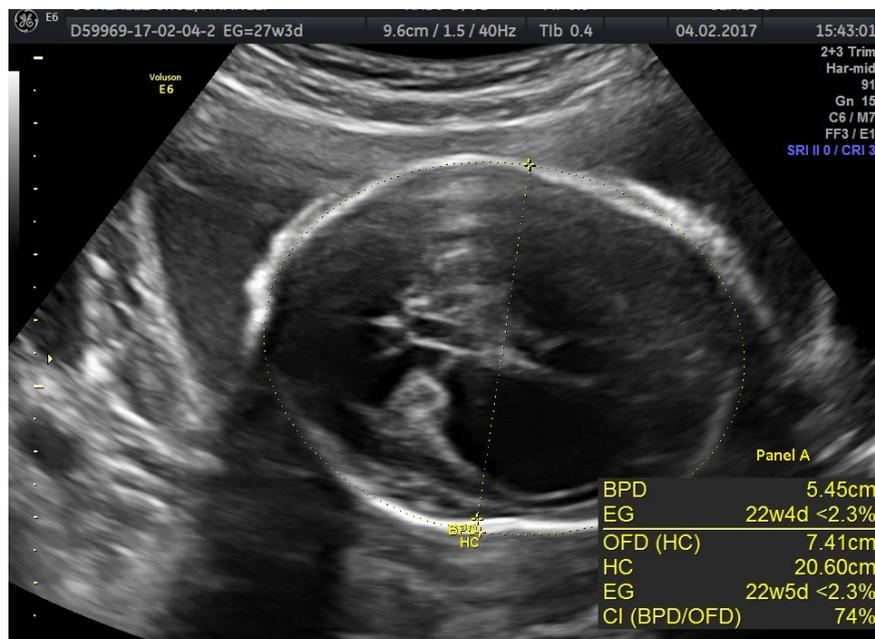
Zika infection can be asymptomatic, but in the presence of congenital Zika syndrome the most common findings are microcephaly and brain calcifications [1]; but there are reports of other abnormalities like ventriculomegaly, and abnormalities of the corpus callosum [2].

In this case we recommended a multidisciplinary approach by the maternal fetal medicine unit, pediatric neurology and perinatal genetics.

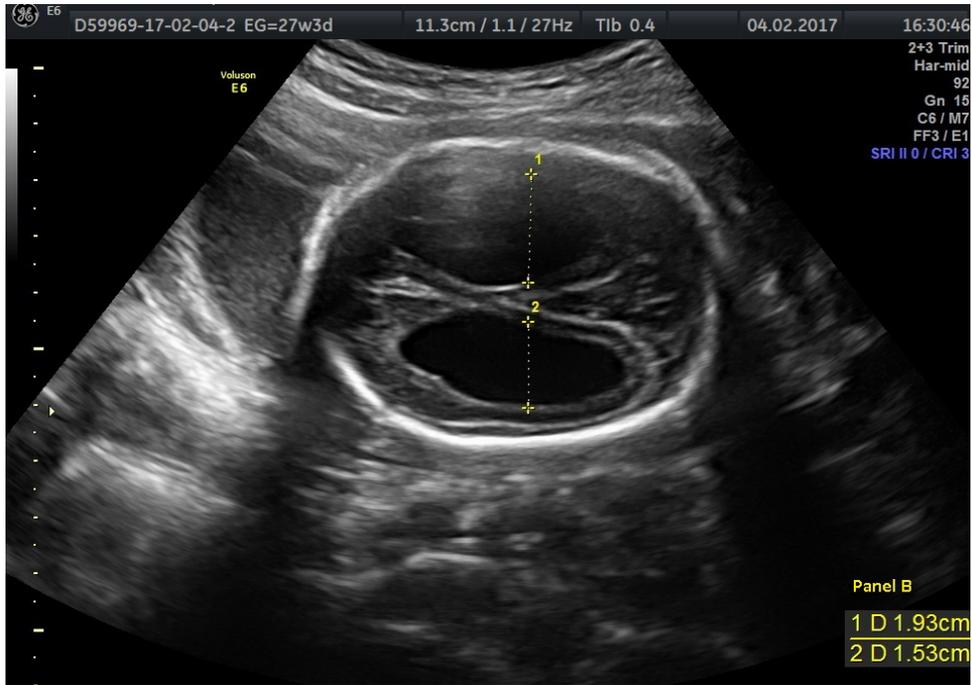
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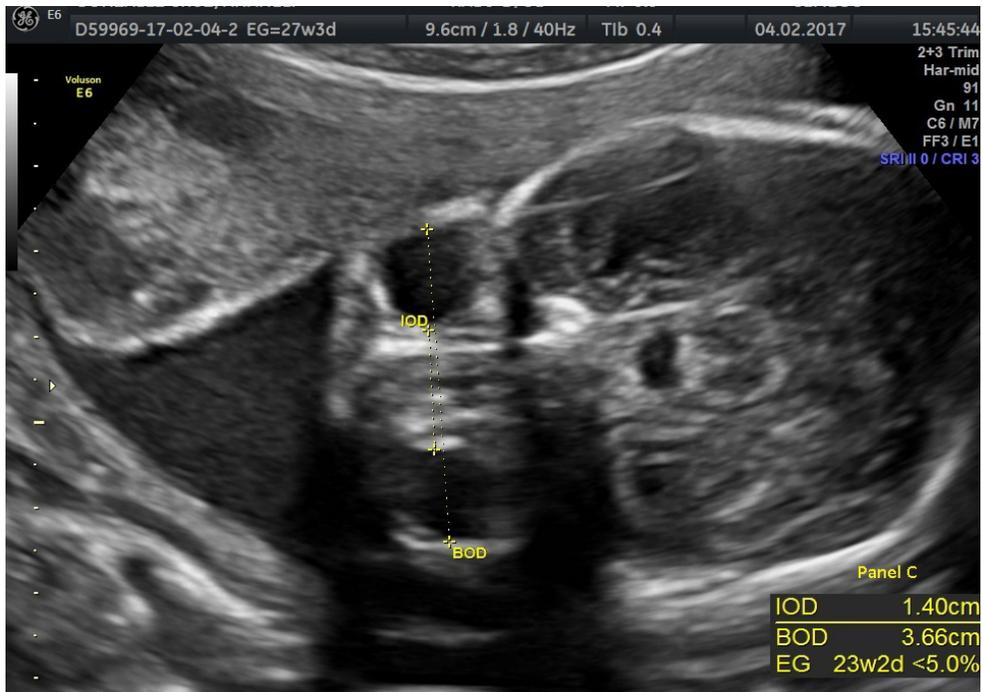
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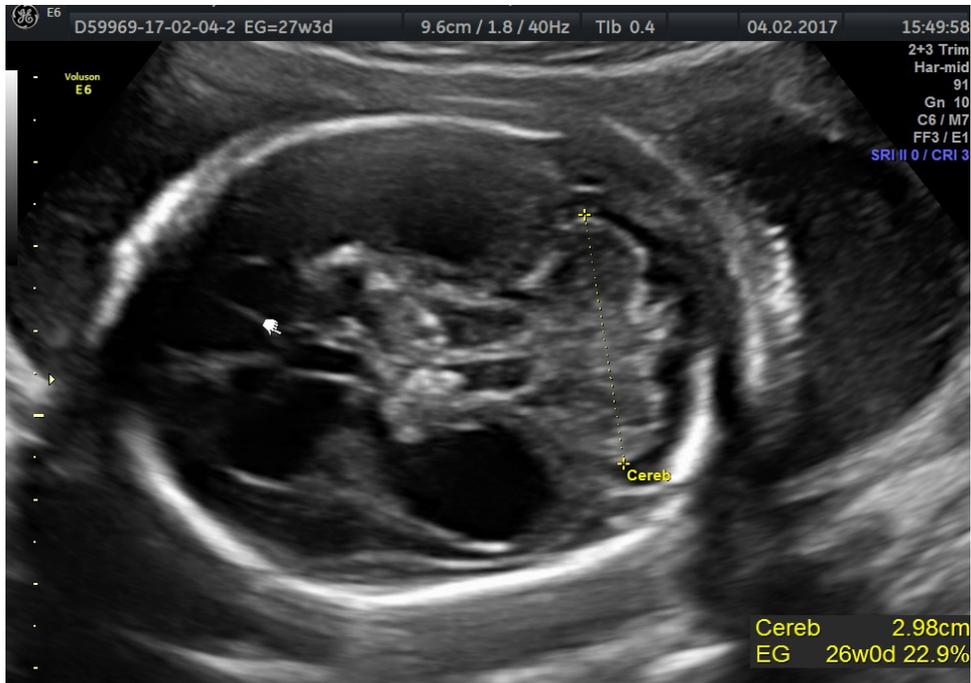
**Figure 1. Ultrasonographic measurement of Biparietal Diameter and Cephalic Circumference at 27.3 weeks of gestation, compatible with microcephaly.**



**Figure 2. Ventricular system ultrasonographic assessment. Compatible with of Severe ventriculomegaly (1: Right side, 2: Left side)**



**Figure 3. Ultrasonographic measurement of biorbital diameters at 5th percentile, compatible with hypotelorism.**



**Figure 4. Cerebellum 29.9mm that corresponds with 26.0 weeks of gestational age.**

## REFERENCES

1. Honein MA, Dawson AL, Petersen EE *et al.* Birth Defects Among Fetuses and Infants of US Women With Evidence of Possible Zika Virus Infection During Pregnancy. *JAMA.* 317: 59-68, (2017).
2. Besnard M, Eyrolle-Guignot D, Guillemette-Artur P *et al.* Congenital cerebral malformations and dysfunction in fetuses and newborns following the 2013 to 2014 Zika virus epidemic in French Polynesia. *Euro. Surveill.* 21: 1-9, (2016).