Frequently Asked Questions from Zika Outreach Webinar

Question:

What is the optimal time to scan our patients with exposure to detect microcephaly or any brain changes? Would it be at 22 weeks gestation and what interval of time is optimal to repeat scan? Should we follow them until the end of the pregnancy?

Answer From Larry Platt:

Most would recommend an early scan in the first trimester followed by a 20-22 week scan and then every 4 weeks.

Answer From Ilan Timor:

Accurate dating is crucial. We do not have yet good data below 20-22 weeks, however I would measure head size and offer transvaginal neuro ultrasound that is able to detect subtle changes that were not yet described.

Question:

How common is arthrogryposis in these fetuses, and does its severity vary?

Answer From Larry Platt:

Arthrogryposis represents neurologic damage from the virus. It occurs as a secondary change but more often in severe cases.

Question:

Are there any extra cranial findings we should be searching for in Zika cases?

Comment From Lawrence D Platt:

At present the most frequent finding is Arthrogryposis but also other akinesia findings

Question:

Is it feasible to see any subtle CNS signs by TVS as early as 13-14 weeks?

Answer From Lawrence D Platt:

Indeed with High Viral load it is anticipated that there will be early changes and it is clearly important to look, but follow up is essential as changes often occur later.

Answer From Ilan Timor:

So far these signs have not been clearly attributed to the virus, however any pathology that cannot be explained by the viral attack should be considered suspicious and reported.

Answer From Lawrence D Platt:

As seen in Professor Malinger's lecture, about 30%of cases in Brazil had CNS findings.

Answer From Ilan Timor:

I think that Dr Malinger was pretty clear about the approach: If there is selologic confirmation and termination is acceptable, it should be offered. If that is not possible, serial US every 2-3 weeks may be offered.

Question:

Considering that a large percentage of patients with Zika may be asymptomatic. What approach to maternal screening would you recommend in countries in which local spread of Zika has been documented? Is there a role for universal screening as with rubella?

Answer From Lawrence D Platt:

At present I would recommend follow the WHO interim Guidelines released April 29, 2016.

Question:

Are there any cases with only IUGR, but without intracranial abnormalities and what is the neonatal outcome?

Answer From Lawrence D Platt:

The problem with IUGR is that all other causes must also be ruled out.

Answer From Lawrence D Platt:

Confirmation of Zika Virus in Amniotic fluid and/or the fetus with IUGR and no other findings would certainly be suspicious

Question:

Is it possible to do a routine FCD on a US scan for a Zika infected fetus to accurate the diagnosis of microcephaly?

Answer From Lawrence D Platt:

Remember Microcephaly is only a sign and often imprecise in predicting birth outcome. Other signs are usually present. I recommend reviewing the WHO guidelines that are availableon the WHO website.

Reply: In French Guyana, we have 300 pregnant women infected by Zika. Pregnancies are managed by a US exam each month, following the WHO Guidelines. For now, no cases of microcephaly have been seen... only IUGR and several CNS disorders (SP agenesia, hypoplasia of the CC).

Reply From Ilan Timor:

This is extremely reassuring as I see it. Let us see the long-term outcome of the Brazilian cases. They seem to be very severe.

Reply from Lawrence D Platt:

Do you know the percentage of IUGR only and how they did long term?

Question:

What is the life expectancy for a fetus affected by the Congenital Zika Virus Syndrome ?

Comment From Lawrence D Platt:

At present we do not have large data on outcomes from Brazil, but life expectancy is highly dependent on the care of the infant and the degree of CNS involvement.

Question:

Which nomograms for HC measurements shall we use, since most ultrasound software programs (e.g viewpoint) are only reporting percentiles and not SD?

Answer From Lawrence D Platt:

There are many curves available with SD given a simple way is to go to “perinatology.com” or even google “Fetal Head Circumference curves”. You will find many references are also give for this in the WHO Interim guidelines.

Answer From Ilan Timor:

As old as it is, the data by Chervenak prove to be the ones that I know are used most. The CDC in the USA regard any head size below the 3rd percentile as suspicious. Circumferences below 30cm are diagnostic as far as I read.

Answer From Lawrence D Platt:

Actually as Professor Malinger showed, he used 32 cm at birth as the first concern. Always look and measure the parent’s head as well.

Question:

Do you think we should systematically test Zika virus in maternal blood from asymptomatic pregnant women from countries with high prevalence of Zika virus infection?

Answer From Ilan Timor:

I think that in some of these countries the health authorities will determine which are the highest risk patients and decide the level of sensitivity to offer the tests. It definitely has to be offered to patients with high suspicion of contacting the disease.

Answer from Joshua Copel:

We are doing that in the US for anyone who has been in an endemic area during the pregnancy. We get IgM via CDC or our state health departments, as long as the travel ended less than 12 weeks ago. We do this admittedly not knowing the sensitivity of the IgM testing to infections.

Question:

How many weeks after seroconversion or clinical signs of infection should AC (amniocentesis) be done? Do we have any idea what is the earliest time after infection that amniotic fluid could be positive?

Comment From Josh Copel :

We don't know how long amniotic fluid will remain positive if there is infection.

Question:

The prevalence of Zika virus in Haiti has not been ascertained, despite several reports of community workers and missionaries returning to the United States only to test positive for Zika. The cost of definitive diagnosis with RT-PCR is prohibitive in this population. How can we use ultrasound best to monitor for Zika virus in pregnant women living in Haiti? What would you suggest the interval of ultrasound surveillance be, assuming that the patient comes into prenatal care in the first trimester? How can we adequately estimate the extent of Zika virus infection here without the use of serology and RT-PCR?

Answer From Joshua Copel :

You might be able to work backward if you are seeing cases of brain damage, which we think may occur in about 1/3 of infected moms. The seroprevalence would be 3X the rate of abnormal fetuses. That's not a satisfactory way to approach it, but without serologic testing it's the best I can think of at the moment.

Question:

What is the optimal time to scan our patients with exposure to detect microcephaly or any brain changes? Would it be at 22 weeks gestation and what interval of time is best to repeat the scan? Should we follow them until the end of the pregnancy?

Answer From Ilan Timor:

Even though the best US method to follow the patients is doing late first and early second trimester US using transvaginal ultrasound it is probably best if a patient who is suspected of brain pathology by transabdominal US to be rescanned in a centre with possibility for a good transvaginal scan.

Answer From Joshua Copel:

Yes, we continue monthly scans until delivery. We don't know the interval until signs are present on ultrasound with certainty yet. I should add that we are resource-rich in the US. Otherwise there must be considerations like when termination of pregnancy is available. If for example that is up to 20 weeks, it might make sense to scan everyone at 19 weeks only.

Answer From Ilan Timor:

I may want to add also that in the period before 20-22 weeks, MRI may be a waited imaging technique and should wait to be used much later in pregnancy.

Question:

In Haiti, termination of pregnancy is still illegal; however, there is a community of OB/GYN who do espouse "safe TOP" over the alternative in case it portends a high-risk to the mother or fetus. What are the criteria of ultrasound anomalies that we in Haiti can use to refer patients to OB/GYNs who would perform these safe TOPs? Would you base it on the severity of the scans or the number of anomalies found?

Answer From Joshua Copel:

For us the decision about how much of an abnormality is enough for the woman to terminate is up to her, but my read of things is that if there are just a few signs of fetal Zika brain effects or if there are a lot of them, is not that important. Any signs are bad, and suggest high risk of severe brain damage.

Answer From Ilan Timor:

TOP would be definitely a considerstion when wide devastation of brain anatomy is present such as severe ventriculomegaly, schyzencephaly, severe brain atrophy and changes in the thickness of the parenchima.

Question:

Are there any cases with only IUGR without intracranial abnormalities & what is the neonatal outcome?

Answer From Joshua Copel:

I'm not aware of that, but Larry Platt called me earlier today to say there may be some, so stay tuned for more data to appear. None of us are used to seeing this rapid an appearance of data, we are watching a disease get described in real time, not after the fact when a broader picture is known.

Question:

Do you know what the risk of congenital Zika virus syndrome is for women who have had one fetus affected before?

Answer From Joshua Copel:

This hasn't been going on long enough to have second pregnancies that I am aware of. We also don't know if there is life-long immunity from a single episode, but there may be.

Question:

Is it possible to do a routine FCD on USscan for ZIKV infected fetus to accurate the diagnosis of microcephaly?

Answer From Joshua Copel:

The issue is not so much the size of the head; that is a late finding. The issue is the anatomy inside the head and the destruction of brain tissue that results in microcephaly in many cases. Remember the case Dr. Malinger presented of ventriculomegaly with a normal size head. I think it's really important to be looking at the anatomy, and not focus on head circumference.