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Guidelines for management of possible perinatal Zika virus infection: testing and referral recommendations. North Carolina, 2/18/2016
UNC Maternal Fetal Medicine

Referrals to MFM: On campus: 984-974-6094
UNC MFM @ Rex 919-784-6425

Clinical circumstance	Recommendation/testing	Responsible Provider
All pregnant women	Counsel to avoid travel to areas with current Zika activity (Central, South America, Caribbean). http://www.cdc.gov/zika. If travel is necessary use mosquito prevention practices	Primary care provider/primary OB provider
Pregnant patient with travel during pregnancy to area with active transmission		
• No maternal symptoms	Obtain maternal Zika IgM **if currently between 2-12 weeks from exposure***	Primary care provider; primary OB provider
	• Negative IgM: routine anatomic fetal US (18-19 weeks) if not already done; Consider repeat third trimester US (28 weeks, 32-34 weeks)	Primary care provider; primary OB provider/MFM US only
	• Positive IgM or inconclusive serology: 18-19 weeks anatomy ultrasound; serial fetal US, consider amniocentesis for Zika PCR	MFM Referral (Consult & US)
	• Abnormal fetal ultrasound, including head circumference < 5th % ile for EGA or HC ≥ 2 SD below the mean for gestational age ##	MFM Referral (Consult & US)
• Maternal symptoms during or within 2 weeks of travel	Obtain maternal serology*: Zika RT-PCR (if ≤ 4 days from symptom onset) Zika IgM (if > 4 days from symptom onset)	Primary care provider; primary OB provider
	• Negative IgM: routine anatomic fetal US (18-20 weeks) if not already done; Consider repeat third trimester US (28 weeks, 32-34 weeks)	Primary care provider; primary OB provider/MFM US only
	• Positive IgM or inconclusive serology: anatomic fetal ultrasound (18-19 weeks EGA); serial fetal US, consider amniocentesis for Zika PCR	MFM referral (Consult & US)
	• Abnormal fetal ultrasound, including head circumference < 5th % ile for EGA or HC ≥ 2 SD below the mean for gestational age ##	MFM Referral (Consult & US)

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- Anatomic ultrasound requests for UNC will be scheduled at ~ 18-19 weeks EGA
- Ultrasounds outside of this time (requests prior to 18 weeks and after 21 weeks) will be scheduled as 'next available' and within 10-14 days
- In presence of suspected fetal anatomic abnormality on referral ultrasound, UNC MFM ultrasound will be scheduled within 48 hours
- MFM referral = MFM consultation and ultrasound

**** Obtaining Zika maternal serologic testing via the NC DHHS Division of Public Health:**
http://www.ncmedsoc.org/wp-content/uploads/2013/06/Zika-NC-provider-memo-update-2_8_2016.pdf

- To order the test, you HAVE TO call the NC DHHS Division of Public Health to get permission. Call the Communicable Disease Branch at 919-733-3419 and tell them you want to test someone for Zika. They will then connect you to someone who will ask about travel dates and symptoms.
- Once you have permission, you HAVE TO fill out form DHHS 3445
    - http://slph.ncpublichealth.com/Forms/DHHS-3445-SpecialSerology.pdf
- On the form, make sure you check that you want to test for Chikungunya virus and write in Zika and Dengue
- Draw 2 serum separator tubes

Microcephaly definition:

The definition of microcephaly by prenatal ultrasound (SMFM 2.2016 guidelines): Microcephaly is defined as the HC ≥ 3 SD below the mean for gestational age; pathologic microcephaly is defined as the HC ≥ 5 SD below the mean for gestational age.

As most US reporting software report percentile, the table below can be used to determine the SD from the mean for a specific HC (mm) by gestational age. 3 SD will usually be well below the 5th % tile, thus > the 5th % tile and certainly > the 10th 5 tile will exclude microcephaly.

In pregnancies undergoing screening for fetal effects of Zika virus:

Obtain HC

- If ≥ 2 SD below the mean, obtain detailed intracranial anatomic evaluation and if normal consider repeat every 3-4 weeks
- If ≥ 3 SD below the mean: diagnosis of isolated microcephaly
- If ≥ 5 SD below the mean: diagnosis is consistent with pathologic microcephaly

Table adapted from: Chervenak FA, Jeanty P, Cantraine F, Chitkara U, Venus I, Berkowitz RL, et al. The diagnosis of fetal microcephaly. Am J Obstet Gynecol. 1984;149:512-7.

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Table 1. Means and Standard deviations of the head circumference as a function of Gestational Age

		Head circumference (mm): SD Below Mean				
Gestational Age (Weeks)	Mean (mm)	-1	-2	-3	-4	-5
20	175	160	145	131	116	101
21	187	172	157	143	128	113
22	198	184	169	154	140	125
23	210	195	180	166	151	136
24	221	206	191	177	162	147
25	232	217	202	188	173	158
26	242	227	213	198	183	169
27	252	238	223	208	194	179
28	262	247	233	218	203	189
29	271	257	242	227	213	198
30	281	266	251	236	222	207
31	289	274	260	245	230	216
32	297	283	268	253	239	224
33	305	290	276	261	246	232
34	312	297	283	268	253	239
35	319	304	289	275	260	245
36	325	310	295	281	266	251
37	330	316	301	286	272	257
38	335	320	306	291	276	262
39	339	325	310	295	281	266
40	343	328	314	299	284	270
41	346	331	316	302	287	272
42	348	333	319	304	289	275