Dartmouth-Hitchcock
DEPARTMENT OF RADIOLOGY- ULTRASOUND

Obstetrical Imaging Guidelines

Purpose:

To establish guidelines for sonographers/ sonologists performing selected Ultrasound examinations.

Dating:

Dating assessment is established by **best clinical judgment**. The following are guidelines only.

General guidelines:

1st Trimester:

Use the LMP if the difference between Ultrasound dating and LMP date is ≤ 7 days to establish the EDD.

If difference is > 7 days use the Ultrasound dating to establish the EDD.

2nd Trimester:

Use the LMP if the difference between Ultrasound dating and LMP date is ≤ 10-14 days to establish the EDD.

If the difference is > 10-14 days use the Ultrasound dating to establish the EDD.

Oligohydraminos is an overall sum of the 4 quadrants that is ≤ 8 cm

Procedure Guidelines listed below are per AIUM Standards

OBS- MORPHOLOGY:

Obtain representative images documenting the following:

- Longitudinal image documenting the bladder and cervix
- Fetal position
- Placenta location (if low lying perform trans vaginal study)
- Placental cord insertion images in grey scale and color Doppler
- AFV if specific to gestational age
- Adnexal structures
- Lateral ventricle measurement
- Cerebellar hemispheres

- Cisterna magna measurement
- Cavum septi pellucidum
- Nuchal fold measurement
- Nasal bone measurement
- Face and upper lip
- Fetal profile
- Fetal orbits documenting lens
- 4-chamber heart & cine loop capture
- LVOT – cine loop capture if feasible
- RVOT – cine loop capture if feasible
- M-mode tracing with heart rate measurement
- Stomach
- Fetal cord insertion
- Kidneys
- Bladder
- Color Doppler umbilical vessels surrounding fetal bladder
- Fetal limbs – documenting feet at 90 degrees and open hands
- Longitudinal and transverse images of fetal spine
- Cine image capture of the entire spine in transverse section
- Adnexal structures
- Measurements specific to gestational age

OB FOLLOW-UP/ EFW:

Obtain representative images documenting the following:

- Perform fetal assessment to include fetal anatomy appropriate for gestational age.
- Document areas NOT well seen on prior scan. If for example, the fetal spine was well seen at 18 weeks, a full re-assessment is not necessary.
- Re-check are of prior documented abnormality.

- If it has been more than 2 weeks from the last scan, measurements should be considered. Clinical Ultrasound findings should determine the necessity.
- Longitudinal image documenting the bladder and cervix
- Fetal position
- Placenta location
- Placental cord insertion images in grey scale and color Doppler
- AFI- 4 quadrant measurement if $\geq$ 28 weeks
- Intra-cranial anatomy
- 4-chamber heart & cine loop capture
- LVOT – cine loop capture if feasible
- RVOT– cine loop capture if feasible
- M-mode tracing with heart rate measurement
- Stomach
- Kidneys
- Bladder
- Fetal cord insertion
- Longitudinal and transverse images of fetal spine
- Adnexal structures

VIABILITY:

Obtain representative images documenting the following:

- CRL measurement
- Placental location
- Amniotic fluid
- Gestational Sac
- Identify and document yolk sac
- Adnexal structures
- M-mode tracing with heart rate measurements
- Cine loop capture documenting the presence or absence of fetal cardiac activity

NUCHAL TRANSLUCENCY:

Obtain representative images documenting the following:

- NT measurement
- CRL length
- Placental location
- Amniotic fluid
- Gestational Sac
- Adnexal structures
- M-mode tracing with heart rate measurement

CERVICAL LENGTH:

Obtain representative images documenting the following:

- Position
- Cervical length with & without fundal pressure
- Observe cervix for three minutes after applying fundal pressure
- Adnexal structures
- M-mode tracing with heart rate measurement

AFV- POST DATES:

Obtain representative images documenting the following:

- Presentation
- Placenta location
- AFI- 4 quadrant measurement
- M-mode tracing with heart rate measurement
- ** For Twins/ multiples**
- Measure and report the deepest vertical pocket in each gestational sac

POSITION ONLY:

Obtain representative images documenting the following:

- Position
- AFI- 4 quadrant measurement
- M-mode tracing with heart rate measurement

BIOPHYSICAL PROFILE

Obtain representative images documenting the following:

- BPP parameters – Use the grading score parameters (2-8) in AS- Ob-Gyn
- Do not use NST section.
- Presentation
- AFI- 4 quadrant measurement
- Placenta location
- M-mode tracing with heart rate measurement

MCA DOPPLER:

Obtain representative images documenting the following:

- MCA Doppler assessment with measurements entered into appropriate boxes
- Report Peak Systolic Velocity (PSV) & S/D Ratio
- SV gate size should be set to 1.0mm
- Position
- Placenta location
- AFI - 4 quadrant measurement
- Assessment for hydrops
- M-mode tracing with heart rate measurement

UA DOPPLER:

Indications:

AC < 10%
EFW < 10%
AFV < 10%

If the individual AC percentile falls < 10% a UA Doppler should be performed
HC/ AC ratio > the upper limits of normal for GA
(Example: small abdominal circumference, relatively large head)
Significant drop off the growth curve
Obtain representative images documenting the following:

S/D ratio & RI
Position
Placenta location
AFI- 4 quadrant measurement
M-mode tracing with heart rate measurement

AMNIOCENTESIS:

Obtain representative images documenting the following:

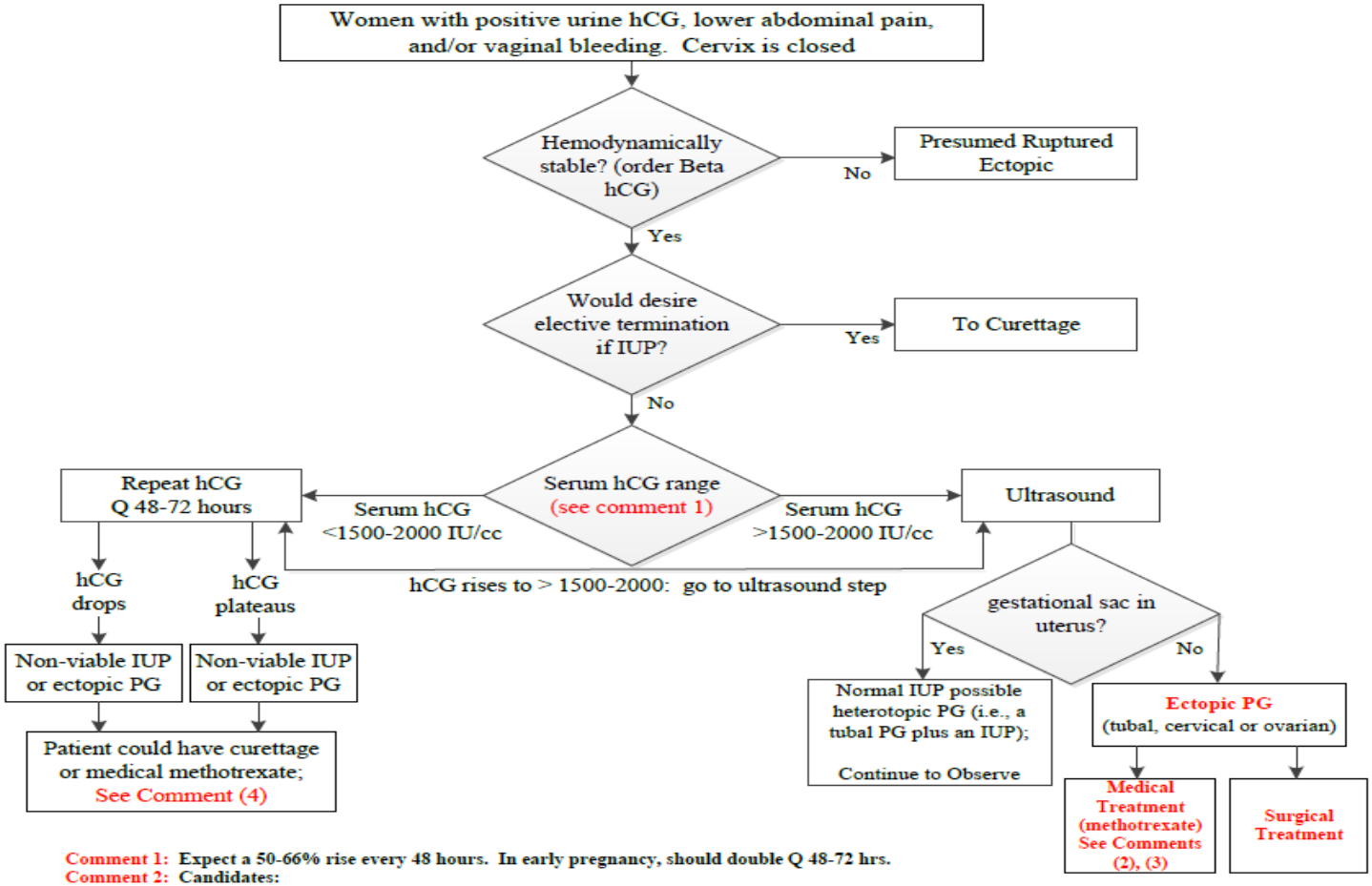
- Position
- Placenta location
- AFI- 4 quadrant measurement if $\geq$ 28 weeks
- M- Mode tracing with heart rate measurement pre and post procedure

KCL Procedure:

Obtain representative images documenting the following:

- Position
- AFI- 4 quadrant measurement
- M- Mode tracing with heart rate measurement pre & post procedure

Suspected Ectopic Presents to ER (Protocol)



Comment 1: Expect a 50-66% rise every 48 hours. In early pregnancy, should double Q 48-72 hrs.

Comment 2: Candidates:

a. Hemodynamically stable
b. hCG < 5000 IU (*)
c. Compliant
d. Adnexal mass, 3cm, no cardiac activity (*)

* Relative contra-indication

Comment 3. Need to call pharmacy to call in a qualified pharmacist. Need methotrexate (chemotherapy form) in ER. Can be administered by ER Nurse or inpatient Hem-Onc Nurse. Dosage 50 mg/M2 (sq. meters of body surface area). Baseline Labs: (CBC, LFTs, Rh, hCG). Repeat labs in 7 days; expect 25% drop in hCG; then weekly hCG until undetectable (less than 100 days)

Comment 4: Curettage if villi present, from viable IUP. Observe. If patient refuses curettage, should suggest methotrexate protocol.