QUIZ 6th March 2019 (answers below)

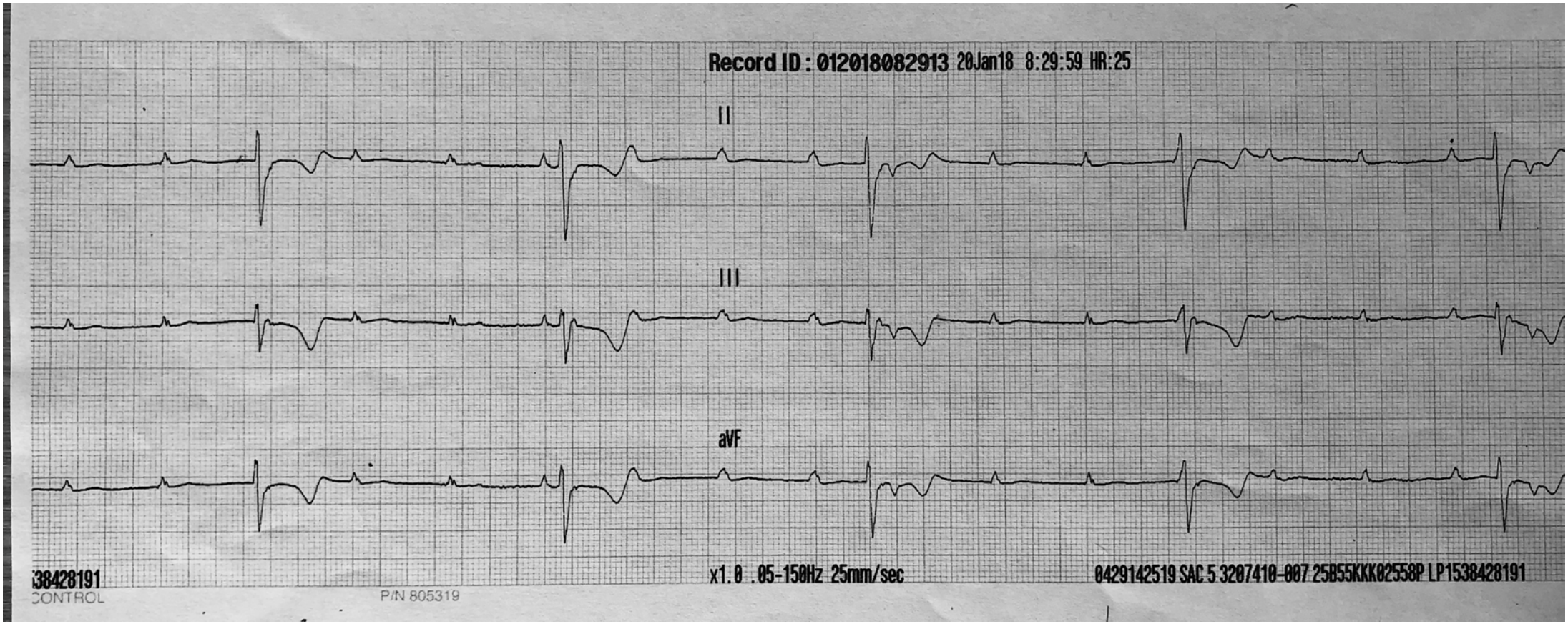
1. **What is your differential diagnosis of PV bleeding in early pregnancy?**

2. **Explain the "discriminatory zone" for βHCG in early pregnancy.**

3. **At what gestation do you see embryonic cardiac activity on ultrasound?**

4. **What are the different types of brain herniation?**

5. **Describe and interpret the following ECG.**


Record ID : 012018082913 20Jan18 8:29:59 HR:25
II
III
aVF
38428191
CONTROL
P/N 805319
x1.0 .05-150Hz 25mm/sec
0429142519 SAC 5 3207410-007 25B55KKK02558P LP1538428191

QUIZ answers 6th March 2019

1. **What is your differential diagnosis of PV bleeding in early pregnancy?**

- *Physiologic – implantation*
- *Ectopic*
- *Subchorionic haematoma*
- *Gestational trophoblastic disease*
- *Cervical, vaginal or uterine pathology (Ectropion, Cervical neoplasia, vaginal trauma)*

As per SVH Gynaecology Fellow Myriam Girgis
Her talk is on the website www.VinniesED.wordpress.com

2. **Explain the "discriminatory zone" for βHCG in early pregnancy.**

2000IU/L.

There is much variability between patients and it is sonographer dependant. Ideally, patients would have their ultrasound done by sonographers and radiologists that specialise in early pregnancy ultrasound.

Most places use a discriminatory zone of 2000IU/L. Above this level, a normal viable pregnancy should be visualised. However, if a viable pregnancy is not visualised, this is not diagnostic of a non-viable or ectopic pregnancy.

Shaunik A et al Utility of dilation and curettage in the diagnosis of pregnancy of unknown location Am J Obstet Gynecol 2011;204(2):130.e1-136.e1

Results from the above study showed that among women with a pregnancy of unknown location and hCG levels of 2000 – 3000 IU/L, there were 19 ectopics and 38 non viable pregnancies for each 1 viable intrauterine pregnancy. This shows that the most common cause of an hCG above 2000 without visualisation of pregnancy is actually a non viable pregnancy, rather than an ectopic.

Women with ectopic pregnancies have highly variable hCG levels, often less than 1000IU/L. The hCG level does not predict the likelihood of ectopic pregnancy rupture. That is, a single hCG value, even if low, does not rule out a potentially life-threatening ruptured ectopic pregnancy. So ultrasound is indicated in any woman with a positive pregnancy test who is clinically suspected of having an ectopic pregnancy.

Doubilet et al Diagnostic Criteria for Nonviable Pregnancy Early in the First Trimester N Engl J Med 2013; 369:1443-1451

3. At what gestation do you see embryonic cardiac activity on ultrasound?

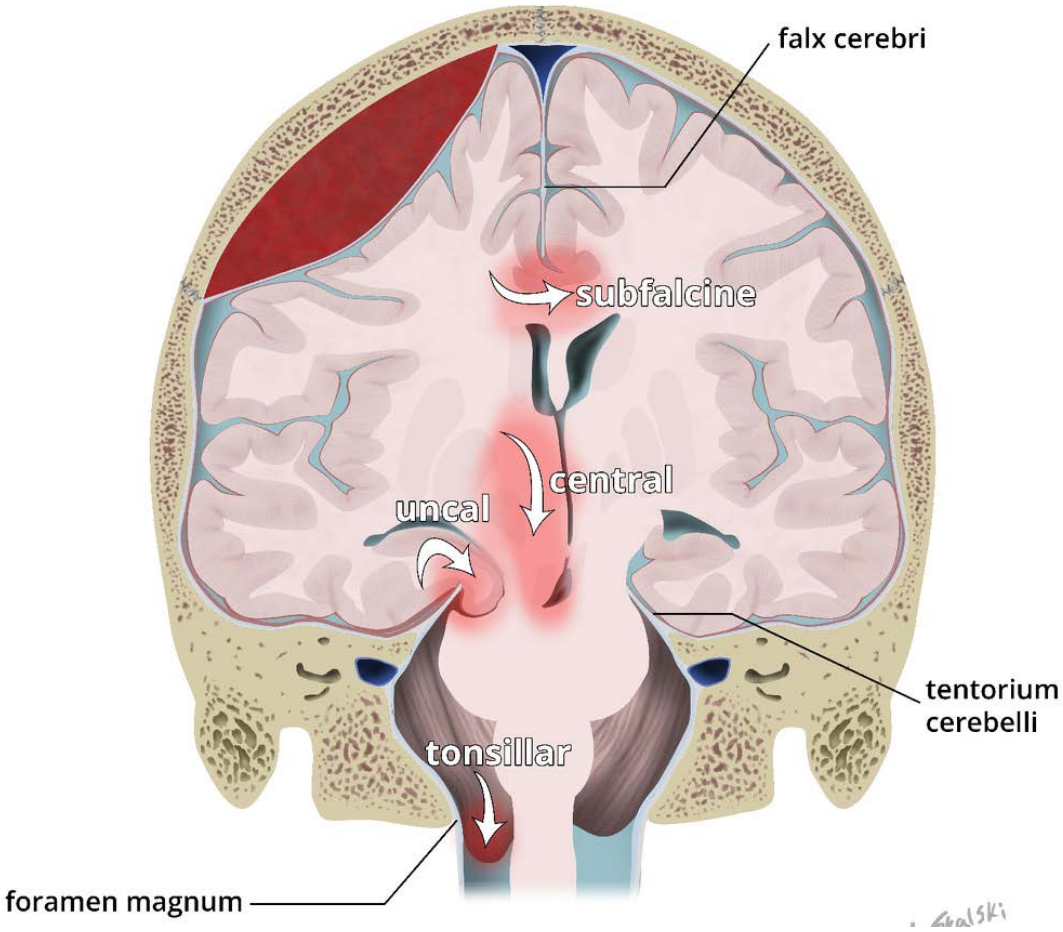
6 weeks. Variation up to ½ week.

At 5 weeks the gestation sac is first seen
At 5 ½ weeks the yolk sac appears
At 6 weeks the embryo appears next to the yolk sac at which time cardiac motion is seen as a flicking motion.

The criteria most often used to diagnose pregnancy failure are:
Absence of cardiac activity at crown rump length 7mm
No embryo seen by the time the gestational sac is 25mm
No visible embryo by a certain point in time eg. 11 days after gestational sac seen

Tulandi et al UpToDate Ectopic Pregnancy: Clinical manifestations and diagnosis
Last updated May 2017 accessed June 2017

4. What are the different types of brain herniation?



Case courtesy of Dr Matt Skalski, Radiopaedia.org, rID: 45683

5. **Describe and interpret the following ECG.**

Three lead trace – II, III and aVF

Rhythm	*Atrial rate 88/min* *Ventricular rate 26/min* *No AV association*
P waves	*Upright in II so likely originate in SA node*
PR interval	*No AV association*
QRS	*Wide 0.16 sec consistent with ventricular origin* *Left or far left axis so likely posterior ventricular origin* *No inferior q waves*
ST segments	*Isoelectric*
T waves	*Deep T wave inversion*

➔ *Complete heart block*
Ventricular escape rate 26/min
Deep T wave inversion may be due to ischaemia as cause