QUIZ 20th May 2020 (answers below)

1. What is the difference between incidence and prevalence?

2. What is xanthochromia?

3. What is the prevalence of asymptomatic cerebral aneurysm in the general population?

4. What is ulnar variance?

5. Describe and interpret the following ECG.

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HR      91   . Age not entered, assumed to be  50 years old for purpose of ECG interpretation     Room:        RESUS 3
RR     660   . Sinus rhythm. . . . . . . . . . . . . . . . . . . . .normal P axis, V-rate  60- 99
PR     166   . Atrial premature complexes. . . . . . . . . . .SV complexes w/ short R-R intvls
QRSD   155   . IVCD, consider atypical RBBB. . . . . . . . QRSd>120mS, terminal axis(90,270)
QT     401   . Anterolateral infarct, acute (LAD). . . . . . . . . .ST >0.20mV, V2-V6,I,aVL
QTc    494

--AXIS--
P       65
QRS    -62
T       52
                                              - ABNORMAL ECG -
                                             |>>> Acute MI <<<|
12 Lead ECG Report (Standard)                                         Unconfirmed Diagnosis
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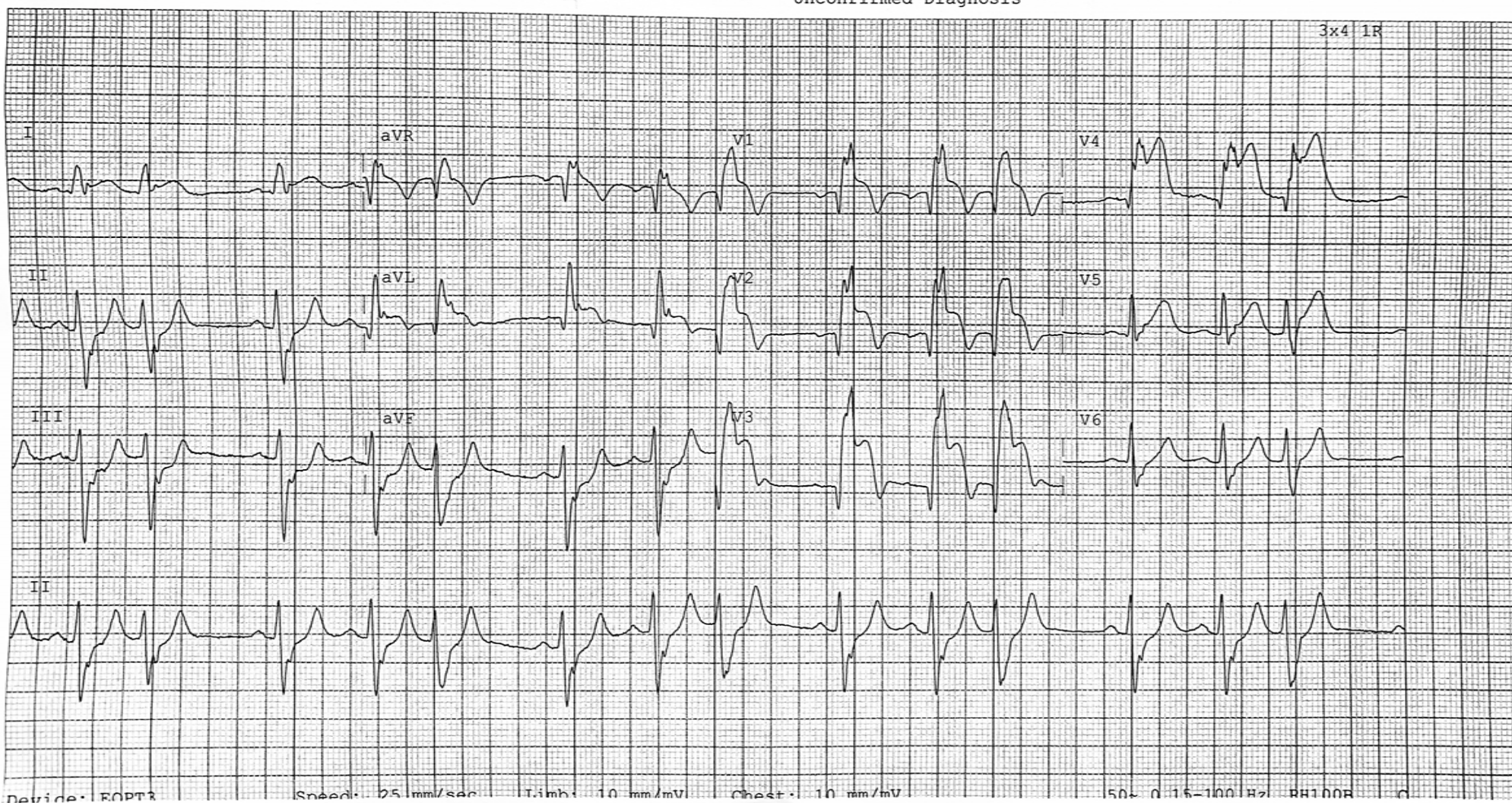
QUIZ answers 20th May 2020

1. **What is the difference between incidence and prevalence?**

Prevalence is the proportion of existing cases of the disease/condition in a given population at a specific time whereas incidence is the number of new cases in a given population over a specific period of time.

2. **What is xanthochromia?**

Xanthochromia refers to the yellow discolouration of CSF due to bilirubin. The word xanthochromia is from the Greek xanthos (yellow) and chroma (colour).

Detecting xanthochromia in the CSF twelve hours after headache onset can diagnose subarachnoid haemorrhage as opposed to a bloody tap. Blood in the CSF releases oxyhaemoglobin, which is then converted into bilirubin. This process is time dependent and it may take up to 12 hours for bilirubin to be detectable. Bilirubin can then remain detectable for more than 2 weeks. Oxyhaemoglobin is detectable for a few days after a bleed before it is all converted to bilirubin.

Bilirubin can also be detected in the CSF when CSF total protein is raised or when serum bilirubin is raised. This may be indicated by a raised CSF bilirubin but no oxyhaemoglobin. In the first few days after a bleed, oxyhaemoglobin should still be detectable. Raised total CSF protein can occur when there is a breakdown in the blood-brain barrier (such as meningitis) and so that is how CSF bilirubin can also be detected.

Xanthochromia can be detected by two methods. The first is by visual inspection of the centrifuged sample next to a water sample and against a white background. Secondly, and more reliably, xanthochromia is detected by spectrophotometry as bilirubin has a very narrow absorption wavelength of 440 – 460nm. Spectrophotometry distinguishes bilirubin from oxyhaemoglobin, red cells, and other proteins or pigments and detects very low concentrations of bilirubin.

3. **What is the prevalence of asymptomatic cerebral aneurysm in the general population?**

The worldwide prevalance of cerebral aneurysms is estimated to be approximately 3.2% with a mean age of 50.

4. **What is ulnar variance?**

Ulnar variance is the relative lengths of radius and ulna at the wrist. It is measured as the distance between two parallel lines drawn perpendicular to the long axis of the radius at the distal articular surface of the ulna and the ulnar corner of the sigmoid notch (or central reference point) of the radius. Normal measurement is 0 to 2mm.
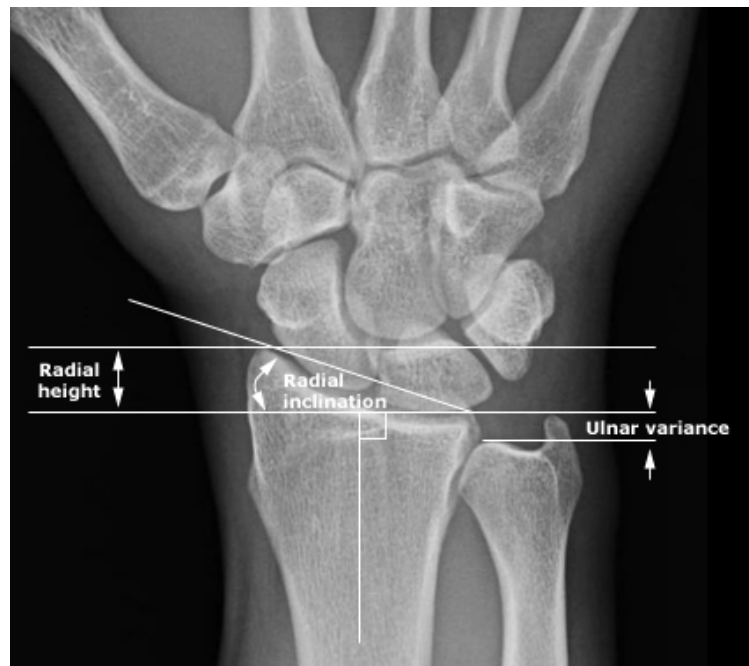
5. **Describe and interpret the following ECG.**

Rate   *Regularly irregular at 88/min*
               Atrial trigemeny as incomplete compensatory pause (c/w ventricular)

P waves   *Upright in II and normal morphology so likely sinus in origin*
               No P wave preceding the premature beat, likely to be in the QRS-T

PR interval   *Normal*

QRS   *Wide with RBBB morphology*
               Pathological q waves V1-4
               Left axis deviation -60

ST segment   *Gross elevation V1-4 (concordant)*
               ST elevation 1-2mm in aVL and I
               Inferior ST depression II, III and aVf

➔ *Acute anterior and high lateral STEMI with inferior reciprocal changes*
   RBBB and left anterior hemiblock with atrial trigemeny