QUIZ Feb 21st 2018 (answers below)

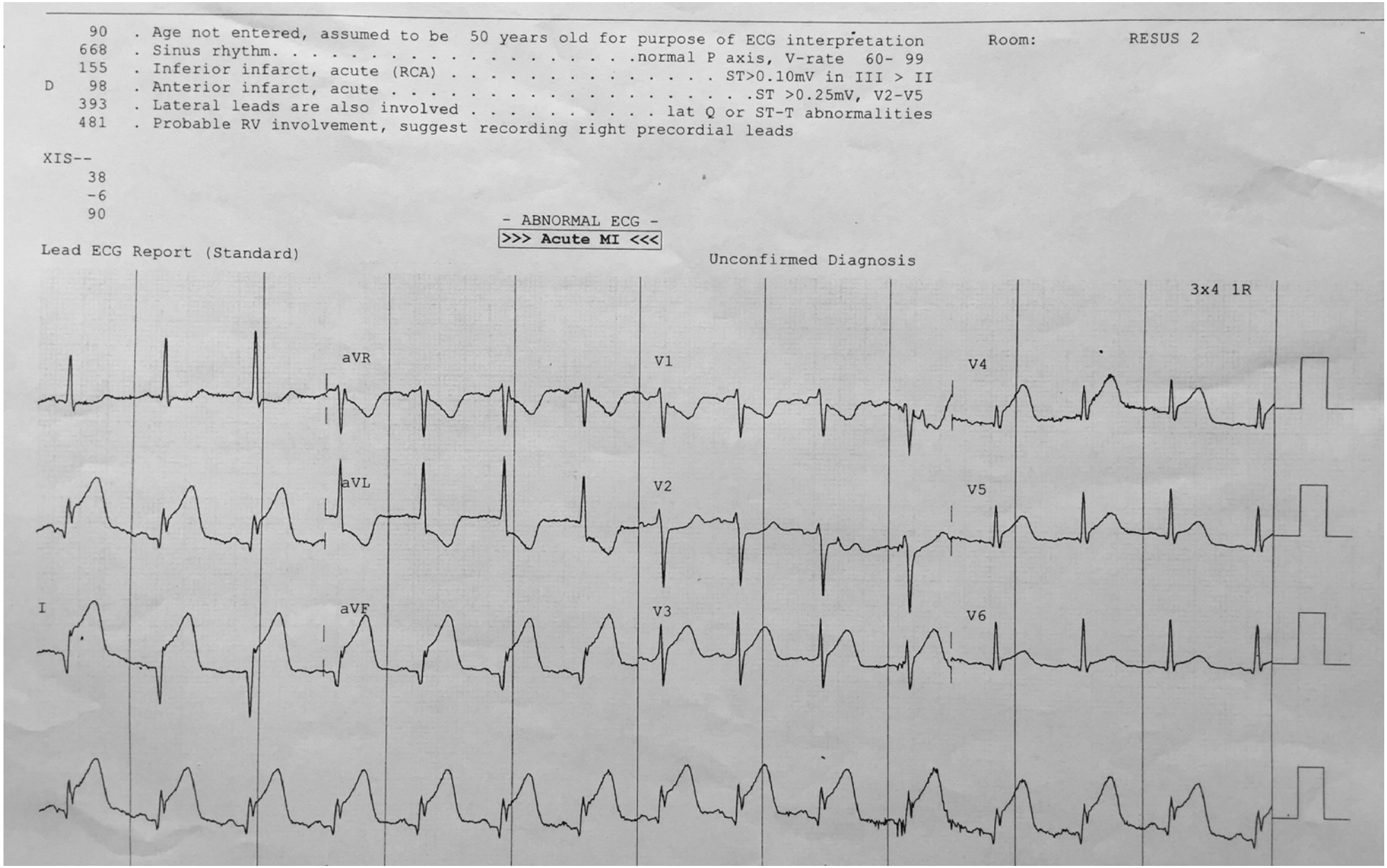
1. **List 6 causes of intraparenchymal cerebral haemorrhage.**

2. **What are the indications for head CT prior to lumbar puncture?**

3. **Why is hyperventilation harmful in cardiac arrest?**

4. **What clinical features would suggest massive pulmonary embolus as a cause of cardiac arrest?**

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


90 . Age not entered, assumed to be 50 years old for purpose of ECG interpretation
Room: RESUS 2
668 . Sinus rhythm. . . . . .normal P axis, V-rate 60- 99
155 . Inferior infarct, acute (RCA) . . . . . ST>0.10mV in III > II
D 98 . Anterior infarct, acute . . . . . .ST >0.25mV, V2-V5
393 . Lateral leads are also involved . . . . . lat Q or ST-T abnormalities
481 . Probable RV involvement, suggest recording right precordial leads
XIS--
38
-6
90
- ABNORMAL ECG -
>>> Acute MI <<<
Lead ECG Report (Standard)
Unconfirmed Diagnosis
3x4 1R
aVR
V1
V4
aVL
V2
V5
I
aVF
V3
V6

QUIZ answers Feb 21st 2018

1. **List 6 causes of intraparenchymal cerebral haemorrhage.**

Trauma
Hypertensive bleed (hypertension, ecclampsia, drug use)
Tumour (primary or secondary)
Haemorrhagic transformation of cerebral infarction
Rupture of aneurysm or AVM
Venous obstruction (venous sinus thrombosis)
Necrotic infection (abscess)
Cerebral amyloid angiopathy
Coagulopathy (thrombolysis, DIC, thrombocytopaenia)

2. **What are the indications for head CT prior to lumbar puncture?**

Age >60 years
Immunocompromise
Known CNS lesions
Seizure within a week of presentation
Signs of raised intracranial pressure (papilloedema, Cushing's sign)
Altered mentation
Focal neurological signs
Suspected subarachnoid haemorrhage

HASBUN R ET AL COMPUTED TOMOGRAPHY OF THE HEAD BEFORE LUMBAR PUNCTURE IN ADULTS WITH SUSPECTED MENINGITIS N ENGL J MED. 2001 DEC 13; 345(24): 1727-33

3. **Why is hyperventilation harmful in cardiac arrest?**

Cardiac arrest patients with an endotracheal or supraglottic airway do not need a pause in chest compressions in order to deliver ventilations. Chest compressions should be continuous (100 – 120/min) with a superimposed ventilation rate of only 6-10/min. It may be tempting to hyperventilate these patients, but there is clear evidence of harm caused by doing so.

Hyperventilation increases intrathoracic pressure which:

- *Impedes venous return*
- *Reduces coronary artery blood flow*
- *Increases electrical impedence*
- *Causes barotrauma*

Convinced?

4. **What clinical features would suggest massive pulmonary embolus as a cause of cardiac arrest?**

Risk factors for thromboembolic disease
Known DVT/PE, Immobilization, Active malignancy, Recent surgery

Pre-arrest presentation with signs/symptoms suggesting PE
Respiratory distress, hypoxia, haemoptysis, normal CXR
Tachycardia, hypotension

Arrest is PEA rather than VF/VT

ECHO findings during arrest
Right heart dilation (although not specific to PE)
Embolus visualized

No other obvious cause is identified for the cardiac arrest

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

Regular rhythm 90/min

P waves	*All conducted*
	Normal morphology and upright in II (so likely from SA node)
PR interval	*Normal*
QRS	*Narrow, Normal axis ~0 degrees, Normal R wave progression*
	Inferior pathological q waves (II, III, aVF)
ST segments	*ST elevation inferiorly up to 6mm in lead III*
	ST elevation anteriorly V4-6 up to 3mm in V5
	Reciprocal ST depression V1-2 of 2mm
	Reciprocal ST depression aVL 3mm and aVR 2mm
T waves	*Pathological T wave inversion in aVL*
	Hyperacute T waves associated with ST elevation
QT interval	*490msec – slightly prolonged*

➔ *Sinus rhythm*
Acute STEMI involving large area of infero-lateral territory
Likely dominant RCA culprit as ST elevation in III>II
Posterior infaction – ST depression in V1-2

➔ *Cardiac catheter findings:*
LMCA widely patent
LAD widely patent with mild irregularities
LCx widely patent with mild irregularities
RCA large calibre dominant artery occluded proximally
Subsequent mid vessel RCA lesion 70% also found

PTCA/stenting of proximal and mid RCA performed successfully!