

VAQ 2010.2.5 (Bloods)

A 29 year old woman who is 30 weeks pregnant presents to the emergency department with a two day history of nausea and RUQ discomfort.

Her observations are:

GCS	15		
HR	95	/min	
BP	150/100	mmHg	supine
Temperature	36.5	°C	
O ₂ Saturation	97	%	on room air

Describe and interpret her results (100%)

Laboratory results

			Reference Range
Sodium	139	mmol/L	(135-145)
Potassium	4.1	mmol/L	(3.5-5.1)
Chloride	105	mmol/L	(99-109)
Bicarbonate	21	mmol/L	(21-32)
Urea	8.0	mmol/L	(2.5-6.7)
Creatinine	48	micromol/L	(30-120)
Glucose	4.3	mmol/L	(3.0-6.0)
Total protein	60	g/L	(60-80)
Albumin	35	g/L	(35-50)
Bilirubin	33	micromol/L	(5-17)
ALP	225	IU/L	(40-120)
AST	5418	IU/L	(10-36)
Hb	11.4	g/dL	(11.5-14.5)
WCC	6.7	10 ⁹ /L	(3.6-10.5)
Platelets	72	10 ¹² /L	(150-400)
INR	1.4		(1.0-1.2)
APTT	28	secs	(24-35)

This woman has HELLP syndrome with hypertension, part of the spectrum of pre-eclamptic illness. She is very unwell and requires immediate assessment by an obstetric physician/obstetrician for co-ordination of her care with regard to blood pressure control/magnesium temporising treatment and steroids for foetal lung maturation and consideration of caesarian section timing.

Physiology

marked hypertension

relative tachycardia in keeping with second trimester pregnancy

Clinical chemistry

Normal electrolytes and renal function

Low normal albumin

Mild hyperbilirubinaemia

Severe transaminitis

Mild anaemia (could be in keeping with pregnancy)

Marked thrombopaenia

Prolonged INR

raised ALP (levels in keeping with pregnancy)

The combination of hyperbilirubinaemia without 'obstructive' LFT and anaemia suggests haemolytic anaemia.

Transaminitis suggests **hepatocellular damage**

Low albumin and raised INR with transaminitis suggest synthetic failure and are concerning for **impending fulminant liver disease**

Low platelets in the context of pregnancy as well as the above strongly suggest **HELLP syndrome**

Gestational hypertension supports **pre-eclampsia**

Other causes of liver disease less likely **toxic**

seek history of ingestions / overdose / drug history, particularly paracetamol
ischaemic

not suggested by stem

infectious

viral hepatitis, EBV, CMV

miscellaneous

fatty liver of pregnancy

Other causes of anaemia

increased consumption

splenomegaly

haemolysis

microangiopathic

ITP

TTP (expect neurological changes)

DIC

reduced production

iron, folate, B12 deficiency

marrow suppression

haemoglobinopathy

Other causes of thrombocytopenia

ITP, TTP, DIC as above

marrow suppression (note normal WCC but low for pregnancy)

drugs

infection

alcohol

malignancy

Recognition of severity of illness