27 Obstetrics

NORMAL PREGNANCY

βhCG

- ↑ 66% every 48hrs
- ***Peak 6-7/40*** then plat
- Urine HCG can detect 25 IU/L ***(but high false –ve)***
- Discriminatory zone
  - **TV = 1500-2000**
  - **TA = 5000-6000**

Anti-D

- Rh-ve mother only
- 1ml covers 6ml foetal blood

Indications

1st Trimester	*2nd, 3rd Trimester*
- Miscarriage	- Routine (28, 34 wks)
- Termination	- Haemorrhage
- Ectopic	- Amniocentesis
- CV sampling	- ECV
	- Trauma

Trauma

- Give ***Anti-D***
- Do ***Keilhauer***: this will dictate how much to give

Dose

all IM

- 1/3	250 IU
- 2,3/3	625 IU (incl routine)

Hyperemesis

- ***Pyridoxine*** 25mg TDS
- ***Doxylamine*** 12.5mg
- ***Maxolon*** (A)
- ***Ondansetron*** (B1)
- ***Promethazine, Prochlorperazine***

EARLY PREGNANCY BLEEDING

- 1/3 of pregnancies (50% uncomplicated)

Causes

- Ectopic ± ruptured	- Ext lesion
- Miscarriage	- Infection
- Implantation	- GTD

Miscarriage

- Falling βHCG
- USS
  - Mean ***Sac Diameter > 25mm no HB***
  - ***CRL > 7mm no HB***
- Management
  - Expectant: 60% complete in 2 wks, 90% 6wks
  - Pharmacological: ***misoprostil***, OPD FU
  - Surgical: ↓ pain, bleeding, time-course

Ectopic

- 60% will have normal next pregnancy
- ↑ risk of recurrence 25-30%
- Risk factors
  - Contraception esp IUD
  - Assisted reproduction/IVF (***1:100 heterotopic***)
  - Hx STI, tubular surgery, ectopic pregnancy
- Management
  - Surgery if in tube
  - ***Methotrexate*** if not
  - Damage control resus if ruptured

LATE PREGNANCY BLEEDING

Lower tract	***Uterine***
- cervical erosion	- Placenta Previa
- ectropion	- Placental Abruption
- malignancy	- Vasa Previa
- polyp	- Show
- infection	

Mx

- ***Abruption***: deliver @ 37/40
- ***Syntocin*** to help labour + Vit K, Steroids

Hypertensive Disorders

Risk Factors

Maternal	***Foetal***
- Gestational HTN	- Large placenta
- Primip	- Paracentesis
- ↑ BMI	- Molar
- DM	- Hydrops

Pre/Eclampsia > 20/40

HTN + Proteinuria + End organ dysfunction (eclampsia)

- DBP > 90 x2 or 100 x1
- Mild: 140/90; Mod: 150/100; Sev: 170/110
- Proteinuria > 1+ (300mg 24hrs)

Management

- Aim SBP 150-160 / DBP90-100
- Pre: ***Aspirin, Calcium, Nifedipine*** 10mg
- Eclampsia
  - ***$MgSO_4$*** 6g, 2g each over 15m, 2g/hr
  - ***Deliver foetus***
  - ***Labetolol*** 10-20mg IV
  - ***SNP*** 5 mcg/kg/hr

Complications

- Seizures, APO, ***HELLP***, AKI

HELLP

H*aemolysis (LDH > 600)*
E*levated* ***L****iver enzymes (AST ≥ 70)*
L*ow* ***P****latelets (< 100)*

- Overlap with pre-eclampsia

Complications

- Haemorraghe: abruption, PPH, liver haem, DIC, ICH
- Infarction: liver, cerebral
- Retinopathy
- Preterm labour
- APO
- AKI

Management

- Damage control resuscitation
- Otherwise same as Eclampsia ie ***betamethasone*** & deliver

DELIVERY

APGARS

	0	1	2
Appearance	Blue, pale	C pink, P blue	Pink
Pulse	Absent	< 100	> 100
Grimace	Absent	Some motion	Crying
Activity	Limp	Some flexion	Good flexion
Resp Effort	Absent	Weak cry	Strong cry

1min & 5min then q5min if < 7; C central; P peripheral

Shoulder Dystocia

- ***McRoberts*** (flex hips)
- Suprapubic pressure
- Deliver post arm first
- Discourage maternal pushing
- Internal rotation manoeuvres

Preterm Labour

Risk factors

- Uterine: fibroids, bicornuate uterus
- Cervical: short, incompetence
- PPROM
- Infection
- Trauma
- Antepartum haemorraghe
- Polyhydramnios
- Recreational drugs: smoking, stimulants
- Social: low socioeconomic, African/asian/ATSI

Managment

- Analgesia
- Foetal monitoring
- Refer & prepare for delivery
- ***Tocolytics*** (see below)
- ***Betamethasone*** 11.4mg IM

POST-PARTUM HAEMORRHAGE

Risk Factors

Pregnancy factors	***Delivery factors***
- Multi	- Prolonged labour
- Polyhydramnios	- Precipitous labour
- Gestational DM	- Instrumented
- Abnormal uterus	- LUCS
- Coagulopathy	

Causes

Tone	Tissue	Trauma	Thrombin
Labour - prolonged - precipitate - dysfunctional Grand multi Multiple Polyhyramnios Macrosomia Fibroids Infection	Operative Laceration - Cervix - Vagina	Placental - Retained - Abnormal - Morbidly adherent	Pre/eclampsia HELLP Placental abrup FDIU > 5/52 Amniotic fluid embolism Sepsis Bleeding dis Drugs

Management

1 ABC, MTP, O-ve blood
2 Tone
- Mechanical
  - uterine massage
  - bimanual comp
  - empty bladder/IDC
  - hysterectomy
- Pharmacology (stepwise): ***SEMP*** (see below)

3 Trauma: pressure & suture
4 Thrombin: ***TXA***
5 Tissue: ***Syntocin*** & OT
6 Theatre: damage control incl ***hysterectomy***

NB ***ergometrine*** *not used for retained placenta - causes uterine contraction and delays passage*

DRUGS IN PREGNANCY

Tocolytics

SMITN, labour suppressants, use < 34/40
- ***Salbutamol*** IV 10mg in 1L @ 10ml/hr
- $MgSO_4$
- ***Indomethacin/Ketorolac***
- ***Terbutaline***
- ***Nifedipine*** 20mg PO, q30min x2

Oxytocics

SEMP, Uterine inducing, mostly PPH
- ***Syntocin*** 10u IV or IM, 40u in 500ml @ 125ml/hr (10u/hr)
- ***Ergometrine*** 0.25mg q15min
- ***Misoprostil*** 1g PR
- ***PGF2a*** 500 µg IM

Foetal

- Vit K
- ***Betamethasone*** 11.4mg IM 24hrs apart

PHYSIOLOGICAL Δ IN PREGNANCY

Airway

- Upper airway mucosal oedema incl nasal mucosa
- Breast enlargement = short laryngoscope handle needed
- ↓ Apnoea time: ↓FRC, ↑O_2 consumption
- ↑ Risk aspiration (↑ gastric p, ↓ LOS tone)

Breathing

- ↑ TV 30%
- ↑ RR 15
- ↑ Minute Volume
- ↓ FRC
- ↓ Cx wall compliance
- ↑ pH
- ↑ PaO_2 (105); ↓ PCO_2 (30)
- ↑ 2,3-DPG

Circulation

- ↑ CO 5 → 7 L/min (↑ HR, SV ↓ SVR)
- ↑ Blood volume 50%
- ↑ BMR 20%
- ↓ Preload (IVC compression)
- ↓ BP
- ↓ Pulm vasc resistance

Metabolic

- Water retention (↑ Vasopressin)
- Hypervolumic hypo-osmolar state
- ↑ aldosterone (from ↓ SVR)
- Iodine def

Renal

- ↑ blood flow
- ↑ GFR 85%
- ↓ U&C
- Physiological hydronephrosis (↑ risk pylo)

GIT

- N&V ± vitamin def
- ↓ LOS tone
- Delayed gastric emptying
- Insulin resistance

Haem

- Hypercoagulable
- ↓ Plt