SECOND EDITION

RAPID

Obstetrics & Gynaecology

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Preface

Obstetrics and Gynaecology can be a bewildering new world for both undergraduates and new trainees. Despite your wealth of clinical exposure you can find yourself back to square one, surrounded by brand new diseases and the mystifying territory of the Labour Ward.

The simple and structured nature of *Rapid Obstetrics and Gynaecology* lends itself extremely well to tackling the subject. By identifying the *key topics*, and distilling from these the *key facts*, this book will provide you with firm foundations and we hope to encourage some of you into this most rewarding of specialties.

MM, SJL, ARK

2010

List of abbreviations

ABC	airway, breathing, circulation
ABG	arterial blood gas
ACE	angiotensin-converting enzyme
ACTH	adrenocorticotrophic hormone
AFP	alphafetoprotein
AIDS	acquired immune deficiency syndrome
AIS	androgen insensitivity syndrome
AMA	anti-mitochondrial antibodies
APH	antepartum haemorrhage
ARDS	acute respiratory distress syndrome
ARM	artificial rupture of membranes
ASMA	anti-smooth muscle antibodies
ASD	atrial septal defect
BMI	body mass index
BP	blood pressure bpm beats per minute
BSO	bilateral salpingo-oophorectomy
BV	bacterial vaginosis
CAH	congenital adrenal hyperplasia
CBT	cognitive behavioural therapy
CEA	carcinoembryonic antigen
CMV	cytomegalovirus
CNS	central nervous system
COCP	combined oral contraceptive pill
CPD	cephalopelvic disproportion
CT	computerised tomography
CTPA	computerised tomography pulmonary angiogram
CTG	cardiotocograph
CVA	cerebrovascular accident
CVP	central venous pressure
CVS	chorionic villous sampling
CXR	chest x-ray
D&E	dilatation and evacuation

DIC	disseminated intravascular coagulation
DVT	deep vein thrombosis
EBV	Epstein–Barr virus
ECG	electrocardiogram echo echocardiogram
ECT	electroconvulsive therapy
ECV	external cephalic version
ERPC	evacuation of retained products of conception
FBC	full blood count
FBS	fetal blood sampling
FEV	forced expiratory volume
FFP	fresh frozen plasma
FH	fetal heart
FHR	fetal heart rate
FSE	fetal scalp electrode
FSH	follicle stimulating hormone
FTA-ABS	fluorescent treponemal antibody absorption
GBS	group B Streptococcus
GDM	gestational diabetes mellitus
GFR	glomerular filtration rate
GGT	gamma glutamyl transferase
GnRH	gonadotrophin-releasing hormone
GTT	glucose tolerance test
G&S	group and save
HAART	highly active antiretroviral therapy
HbA1c	glycosylated haemoglobin
HBsAg	hepatitis B surface antigen
HCG	human chorionic gonadotrophin
HG	hyperemesis gravidarum
HNPCC	hereditary non-polyposis colon cancer
HELLP	haemolysis, elevated liver enzymes, low platelets
HIV	human immunodeficiency virus
HPL	human placental lactogen
HPV	human papilloma virus
HR	heart rate
HRT	hormone replacement therapy
HSG	hysterosalpingogram

HSV	herpes simplex virus
HVS	high vaginal swab
ICSI	intracytoplasmic sperm injection
IM	intramuscular
IOL	induction of labour
IMB	intermenstrual bleeding
IPPV	intermittent positive-pressure ventilation
ITP	idiopathic thrombocytopenic purpura
ITU	intensive treatment unit
IUCD	intrauterine contraceptive device
IUD	intrauterine death
IUGR	intrauterine growth restriction
IUS	intrauterine system (contains levonorgestrel)
IUI	intrauterine insemination
IV	intravenous
IVF	in-vitro infertilisation
JVP	jugular venous pressure
LFD	large for dates
LFT	liver function tests
LH	luteinising hormone
LLETZ	large loop excision of the transformation zone
LMP	last menstrual period
LMWH	low molecular weight heparin
LVEF	left ventricular ejection fraction
LVF	left ventricular failure
LVS	low vaginal swab
MC&S	microscopy culture and sensitivity
MCV	mean corpuscular volume
$MgSO_4$	magnesium sulphate
MMR	measles, mumps, rubella vaccine
MRI	magnetic resonance imaging
MS	multiple sclerosis
MSU	mid-stream urine
NSAIDS	non-steroidal anti-inflammatory drugs
NT	nuchal translucency
OA	occipitoanterior

OHSS	ovarian hyperstimulation syndrome
OT	occipitotransverse
OP	occipitoposterior
PAPP-A	pregnancy-associated plasma protein A
PCB	postcoital bleeding
PCOS	polycystic ovarian syndrome
PCR	polymerase chain reaction
PDA	patent ductus arteriosus
PE	pulmonary embolism
PEFR	peak expiratory flow rate
PET	pre-eclamptic toxaemia
PID	pelvic inflammatory disease
PMB	postmenopausal bleeding
PO	by mouth
POP	progesterone-only pill
PPH	postpartum haemorrhage
PPROM	pre-term premature rupture of membranes
PR	per rectum
PROM	prelabour rupture of membranes
PTL	preterm labour
PV	per vagina
RhD	Rhesus D antigen
RMC	recurrent miscarriage
RPOC	retained products of conception
RPR	rapid plasma reagin
SC	subcuticular
SERMs	selective (o)estrogen receptor modulators
SFD	small for dates
SHBG	sex-hormone binding globulin
SLE	systemic lupus erythematosus
SROM	spontaneous rupture of membranes
SSRI	selective serotonin reuptake inhibitor
STI	sexually transmitted infection
TAH	total abdominal hysterectomy
TFT	thyroid function tests
TOP	termination of pregnancy

TORCH	toxoplasma rubella cytomegalovirus herpes simplex
TPHA	Treponema pallidum haemagglutination assay
TSH	thyroid stimulating hormone
TTTS	twin-to-twin transfusion syndrome
TVS	transvaginal scan
TVT	tension-free vaginal tape
U&E	urea and electrolytes
USS	ultrasound scan
UTI	urinary tract infection
VDRL	Venereal Disease Research Laboratory
VIN	vaginal intraepithelial neoplasia
V/Q	ventilation perfusion (scan)
VSD	ventricular septal defect
VTE	venous thromoboembolism
VZIG	varicella zoster immunoglobulin
X-match	crossmatch

Obstetrics

Acute fatty liver of pregnancy

DEFINITION

Rare pregnancy-associated disorder characterised by fatty infiltration of the liver.

AETIOLOGY

Likely to be due to a mitochondrial disorder affecting fatty acid oxidation.

ASSOCIATIONS/RISK FACTORS

Nulliparity, multiple pregnancy, obesity, male fetus, pre-eclampsia.

EPIDEMIOLOGY

UK prevalence estimated at 5 per 100 000.

HISTORY

Often non-specific, normally in third trimester: nausea, vomiting, abdominal pain, jaundice, bleeding.

EXAMINATION

Liver tenderness, jaundice, ascites, manifestations of coagulopathy. Fifty percent of women will have proteinuric hypertension.

PATHOLOGY/PATHOGENESIS

Accumulation of microvesicular fat in haepatocytes, periportal sparing, small yellow liver on gross examination.

INVESTIGATIONS

Bloods: FBC (assess Hb, haemoconcentration, thrombocytopenia), clotting (↓ synthesis + consumption of clotting factors), LFT (↑ transaminases, mild hyperbilirubinaemia), U&E, glucose (hypoglycaemia common).

MANAGEMENT

Delivery is necessary to halt deterioration. Treatment is supportive: fluid management; correction of hypoglycaemia; blood transfusion as appropriate; correction of coagulopathy with platelets/FFP/cryoprecipitate. Liver transplantation is rarely necessary.

COMPLICATIONS

Maternal: Death, haemorrhage (secondary to DIC), renal failure, hepatic encephalopathy, sepsis, pancreatitis.

Fetal: Death.

PROGNOSIS

Maternal mortality 10–20%; perinatal mortality 20–30%.

Amniotic fluid embolism

DEFINITION

Obstetric emergency in which amniotic fluid and fetal cells enter the maternal circulation causing cardiorespiratory collapse.

AETIOLOGY

Unclear. Entry of amniotic fluid or fetal debris to the maternal circulation provokes either an anaphylactoid reaction or activation of the complement cascade.

ASSOCIATIONS/RISK FACTORS

Often occurs in the absence of identifiable risk factors. Multiparity, ↑ maternal age, Caesarean section, uterine hyperstimulation, use of uterotonics, placental abruption, trauma, termination of pregnancy.

EPIDEMIOLOGY

UK prevalence is 1.8 per 100 000 maternities.

HISTORY

Sudden-onset dyspnoea ± chest pain, ?collapse.

EXAMINATION

Tachypneoa, cyanosis, hypotension, tachycardia, evidence of coagulopathy.

PATHOLOGY/PATHOGENESIS

The precipitating reaction causes pulmonary artery spasm, ↑ pulmonary arterial pressure and ↑ right ventricular pressure, resulting in hypoxia. Hypoxia leads to myocardial and pulmonary capillary damage and LVF. Post mortem reveals fetal squames and debris in the maternal pulmonary circulation.

INVESTIGATIONS

Bloods: ABG, FBC, clotting, U&E, X-match.

Imaging: CXR.
Other: ECG.

MANAGEMENT

Largely supportive; manage in ITU.

Airway: Maintain patency.

Breathing: High-flow oxygen ± intubation.

Circulation: Two large-bore IV cannulae, fluid resuscitation, consider pulmonary artery catheter and ionotropic support, correct coagulopathy with FFP/cryoprecipitate/platelets, blood transfusion if necessary.

Consider delivery.

COMPLICATIONS

Cardiac arrest, death, DIC, seizures, uterine atony and haemorrhage, pulmonary oedema, ARDS, renal failure.

PROGNOSIS

In the UK: 37% mortality, of which 25% occurs within the first hour.

Cardiac disease in pregnancy

DEFINITION

Cardiac disease in a pregnant woman.

AETIOLOGY

Congenital heart disease: PDA, ASD, VSD, coarctation of the aorta, Marfan's, Fallot's tetralogy, Eisenmenger's syndrome.

Acquired heart disease: Valvular defects, ischaemic heart disease.

Cardomyopathies: Including peripartum cardiomyopathy (new-onset cardiomyopathy and heart failure usually within time period of last month of pregnancy and 5 months post-partum).

ASSOCIATIONS/RISK FACTORS

As for cardiac disease in general: family history, obesity, hypertension, smoking, ↑ age, diabetes.

EPIDEMIOLOGY

Increasing prevalence due to ↑ maternal age, ↑ life expectancy for patients with congenital heart disease, ↑ immigrant populations.

HISTORY

Assess new/deterioration of symptoms: SOB, palpitations, orthopnoea, paroxysmal nocturnal dyspnoea, decreased exercise tolerance, chest pain.

EXAMINATION

General: Pulse, BP, JVP, ?oedema, ?cyanosis.

Chest: Heart sounds, murmurs (*note:* ejection systolic common in pregnancy), basal crepitations.

Abdomen: Fundal height (associated with IUGR).

PATHOLOGY/PATHOGENESIS

Dependent on aetiologies noted above. There is 40% increase in blood volume during pregnancy, hence cardiac strain. Women with cardiac disease are unable to increase

cardiac output (uterine hypoperfusion, ↑ risk of pulmonary oedema).

INVESTIGATIONS

Bloods: FBC, U&E, LFT.

Cardiac: ECG, echo.

Fetus: Serial USS for fetal growth, cardiac anomaly scan if there is maternal congenital heart disease.

MANAGEMENT

Dependent on the aetiology.

General: Combined obstetric/cardiology care (tertiary referral centre).

Preconceptual: Assess cardiac status, address risks and absolute contraindications to pregnancy.

Antenatal: Optimise treatment, monitor fetal wellbeing, consider thromboprophylaxis.

Delivery: Consider optimum mode and timing of delivery, consult with anaesthetists, correct positioning, fluid management, consider antibiotic prophylaxis (structural defects).

Post-partum: Increase surveillance (period of haemodynamic change).

COMPLICATIONS

Maternal: Progression of disease, VTE, pulmonary oedema, death.

Fetal: PTL, ↑ congenital heart disease (if maternal congenital heart disease), IUGR, effects of teratogenic drugs for anticoagulation, fetal death.

PROGNOSIS

High risk of maternal mortality if LVEF <40% or LVF. Pulmonary hypertension: 20–50% maternal mortality rate. Eisenmenger's: 50% maternal mortality rate. Patients with Marfan's syndrome with aortic root >4–4.5 cm are advised against pregnancy.

Chronic hypertension in pregnancy

DEFINITION

Hypertension that is either present prior to conception (detected before 20/40) or persists after pregnancy.

AETIOLOGY

Essential hypertension in >90–95% (cause unknown). Remainder are secondary to: *endocrine* (Cushing's, phaeochromocytoma, CAH), *renal* (renal artery stenosis, chronic renal disease), *vascular* (e.g. coarctation of aorta).

ASSOCIATIONS/RISK FACTORS

Increasing age, ethnicity (Afro-Caribbean), obesity, smoking, diabetes, family history, pre-eclampsia.

EPIDEMIOLOGY

Affects 1–5% of pregnancies.

HISTORY

Largely asymptomatic.

EXAMINATION

Blood pressure may be normal in first trimester due to ↓ systemic vascular resistance. Secondary causes include renal bruits, radiofemoral delay.

PATHOLOGY/PATHOGENESIS

Chronic systemic inflammatory response increases susceptibility to pre-eclampsia. Placental pathology similar to pre-eclampsia (arterial occlusive changes, excess villous syncytial knots, infarction etc.) leads to hypoperfusion of the maternal space.

INVESTIGATIONS

Bloods: FBC, U&E, LFT, Urate.

Urinalysis: For proteinuria. If secondary causes are suspected: urinary catecholamines, renal artery USS and so on.

Fetus: Serial USS for fetal growth.

MANAGEMENT

Medication: Convert to non-teratogenic medications: methyldopa, nifedipine, labetalol (*note:* ACE inhibitors are teratogenic), aspirin 75 mg od (↓ risk of pre-eclampsia/IUGR).

Other: Monitor for pre-eclampsia, serial USS for fetal growth, uterine artery Dopplers at 24/40 (predicts pre-eclampsia).

COMPLICATIONS

IUGR, superimposed pre-eclampsia (25%), placental abruption, prematurity.

PROGNOSIS