Isabel Stabile, Tim Chard
and Gedis Grudzinskas

Clinical Obstetrics and Gynaecology

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Preface

The aim of this book is to provide a straightforward summary of the knowledge required for examinations in specialist Obstetrics and Gynaecology. Part Two of the examination for Membership of the Royal College of Obstetricians and Gynaecologists would be a good example. The volume is intended as a companion to the highly successful *Basic Sciences for Obstetrics and Gynaecology* which covers the knowledge required for preliminary examinations.

Increasingly, examinations of all types are based on multiple choice questions (MCQ) or structured answer questions (SAQ). No apology is made for the fact that the present book addresses the sort of "fact" which lends itself to testing by this approach. Thus, there is little discussion of speculative or contentious areas, no account of present or future research, and no references. Numerous excellent books are available which cover these topics in a much fuller and more discursive manner, and the present volume does not seek to emulate them.

Even the most apparently immutable facts are subject to periodic revision. We have attempted to present the "state-of-the-art": most of the material is generally if not universally accepted. A particular problem arises with numerical information. Frequencies of diseases, frequency of clinical findings, efficiency of diagnostic tests and therapies, have almost always been the subject of numerous different studies, each of which yields somewhat different results. Thus, with a few exceptions, most of the numbers given in this book have a "correction interval" of plus or minus 50%. For example, if a figure of 30% is given as the five-year survival of a given stage of a particular tumour, it is likely that any figure between 20% and 40% would be acceptable to examiners as a correct answer.

For most purposes we have assumed that the reader has a background knowledge equivalent to that of a junior to middle-grade trainee in Obstetrics and Gynaecology. No book of this type can possibly be encyclopaedic. We do not claim to identify every conceivable fact which might be asked in an examination nor do we provide detailed "recipes" for practical procedures. However, we believe that we have covered sufficient ground to enable someone of moderate retentive memory to obtain a passmark.

Finally, we hope that the book will also provide an ongoing and useful source of quick factual reference for all those involved in clinical Obstetrics and Gynaecology.

London, January 2000

Isabel Stabile
Tim Chard
Gedis Grudzinskas

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Section I

Obstetrics

Chapter 1

Obstetric Statistics

Birth Rate

A rate is a means of expressing a raw number as a proportion of another number. Since the result is a fraction with a value less than 1, it is multiplied by 1000. The crude birth rate relates the total number of births (numerator) to the total population (denominator). The birth rate reflects the impact of fertility on population growth and is expressed as follows:

$$\frac{\text{the number of live or dead births in a year} \times 1000}{\text{mid-year population}}$$

Underdeveloped countries typically have birth rates of 50 or more; developed countries have rates of 20 or less.

The general fertility rate relates the number of births to the population at risk, i.e. women in the childbearing ages (assumed to be 15–44 years). It is expressed as follows:

$$\frac{\text{the number of live births to women of all ages in a year} \times 1000}{\text{mid-year population of women 15–44 years old}}$$

The general fertility rate is often used to estimate the expected number of births in future years. African-American women in the USA have significantly higher fertility rates than white women.

In the UK there is a statutory requirement for parents to register a birth with a local Registrar within 42 days of delivery. The local Registrar reports to the Registar General. A midwife attending a birth must inform the local Medical Officer within 36 hours of the birth. All 50 states in the USA have statutes requiring that a birth certificate be completed for every birth and submitted promptly to the local Registrar.

Maternal Mortality

In the UK, maternal mortality is defined as death attributable to pregnancy occurring during the pregnancy or within 6 weeks after delivery or abortion. The maternal mortality rate is:

$$\frac{\text{the number of maternal deaths} \times 1000}{\text{total births}}$$

Factors that may confuse these numbers are: (a) some deaths are fortuitous (e.g. road traffic accidents) and may or may not be included; (b) total births do not include abortions because the latter are not registered. In the UK the maternal mortality rate has fallen from 4 in 1000 in the 1930s to less than 0.1 in 1000 in the 1990s.

Maternal deaths in the UK are reported to the Registrar. The detailed report is reviewed by a senior Regional obstetrician, together with others as appropriate (pathologist, anaesthetist, etc.). The Confidential Enquiry into Maternal Deaths, which is published triennially, analyses details of virtually every maternal death in the UK and classifies them into: (1) indirect obstetric deaths, those resulting from pre-existing disease or disease that developed during pregnancy that was aggravated by pregnancy; (2) fortuitous deaths, due to causes which just happened to occur during pregnancy; or (3) true (or direct) deaths resulting from obstetric complications of pregnancy, labour and puerperium, from interventions, omissions, incorrect treatment or from a chain of events resulting from any of the above. The major direct causes of maternal death are pulmonary embolism, toxaemia, haemorrhage, ectopic pregnancy, miscarriage, sepsis and amniotic fluid embolism.

In the triennium 1994–6, the major causes of maternal death per million maternities in the UK were thromboembolism (21.8%), hypertensive disorders (9.2%), amniotic fluid embolism (7.7%), early pregnancy complications (6.8%), sepsis (6.4%) and haemorrhage (5.5%).

1. *Thrombosis and thromboembolism*: two thirds of cases occur after delivery, often without warning. The origin is usually the pelvic or leg veins. The risk is increased with operative delivery, obesity and advanced maternal age. Avoidance includes early diagnosis of leg vein thrombosis and early use of anticoagulation. If there has been a previous thrombosis some advise anticoagulation around the time of delivery.
2. *Haemorrhage*: postpartum haemorrhage is the commonest cause of death from haemorrhage, followed by abruptio placentae and placenta praevia. Deaths from all types increase with age and parity.
3. *Hypertensive disorders*: This includes hypertensive disorders of pregnancy, eclampsia and liver disease.

A significant number of maternal deaths are associated with anaesthesia; 50% of these are due to aspiration of stomach contents leading to Mendelson's syndrome. The experience of the anaesthetist is an important determining factor, as is prevention with antacids (sodium citrate, ranitidine, etc.).

A woman's death is classified as pregnancy related in the USA if it occurs during pregnancy or within one year after the pregnancy. From 1987 to 1990, pregnancy-related maternal mortality increased from 7.2 to 10 in 100 000 live