

Medical Disorders in Pregnancy—The Challenges Ahead

T T Yong,**FAMS, MBBS, MRCOG*, S K Tay,***FAMS, MD, FRCOG*

Nowhere is the fate of two individuals more closely intertwined than that of the mother and her fetus. Pregnancy is a unique state where the physiology of the mother is greatly altered to accommodate the newly developing “organ”—the fetus. The objectives are to provide the fetus with adequate nutrients for its growth and development and to allow the parturient to survive this process of reproduction. Not surprisingly, pregnancy has a large impact on the well being of a mother with an underlying medical disorder. The fetus, at the same time, is vulnerable to the changes in the mother’s internal and external milieu. Both the mother and the fetus’s welfare are major considerations in the management of the pregnancy and demand a large resource from a nation’s healthcare system.

Maternal mortality is an invaluable indicator of the standard of health care of a nation. In the latest Confidential Enquiries into Maternal Deaths in the United Kingdom for 1997-1999, indirect deaths from medical conditions exacerbated by pregnancy (6.4 per 100,000 maternities) have for the first time outnumbered direct deaths (5 per 100,000 maternities).¹ Although this has been largely attributed to improved care in the management of traditional key complications in obstetrics, it could also reflect the increasing importance of medical disorders in modern obstetric practice.

Evidence indicates that changes similar to those in the United Kingdom are happening in Singapore. An institutional study of maternal deaths for the period 1986 to 1992 has revealed that 56% of the deaths were due to indirect causes from a wide range of medical disorders.² In this issue, Lau³ reported that indirect causes, most notably cardiopulmonary diseases, contributed to 34% of all maternal deaths in Singapore in consecutive coronial autopsies between 1990 and 1999.

There are several explanations for these changes. Firstly, women today are delaying childbearing as a consequence of marriage at a later age and pursuit of professional goals, and success of assisted reproduction treatment in elderly women. Pregnancy after the age of 40 is becoming more common now.⁴ Age-associated medical disorders, such as diabetes mellitus and hypertension, are expected to be encountered more frequently in these pregnancies.⁵ Secondly, advances in medicine have enabled some girls who would have died prematurely from their medical or congenital disorders in the past to survive into reproductive age and bear children today. This is particularly true for girls with congenital heart diseases, including those who undergo complex heart repair operations.⁶ Thirdly, infertility or early fetal loss were previously associated with many medical disorders, including thyroid disorders, uncontrolled diabetes mellitus, systemic lupus erythematosus (SLE) and chronic renal failure. Successful medical treatments, renal dialysis or transplantation have made childbearing a reality for these women.⁷⁻⁹ Their pregnancies, however, can sometimes bring on changes beyond the limit of their physiological responses and cause decompensations which lead to severe morbidity or mortality of either the parturient, the fetus, or both.

A paradigm shift in the concept and practice of pregnancy care is needed to meet the emergence of this cohort of high-risk obstetric population. Conceptually, one has to concede that the paucity of case load in individual obstetrician’s practice, complexity of the basis of the disorders, and the very high expectation of the pregnant women and their families from health care providers mean that few obstetricians can garner sufficient experience and expertise to manage such a wide range of complicated medical disorders during pregnancy. Ideally, specially trained physicians in obstetric medicine will play an important role in the management of these women. This subspecialty of medicine has yet to develop to meet the demand today. In practice, these women are traditionally managed through a multidisciplinary approach involving specialists in internal medicine, obstetricians, neonatologists and anaesthetists. Some of these individuals may have to be drawn from other institutions, particularly if one practises in a stand-alone maternity hospital. While individual specialists can manage

* Associate Consultant

** Clinical Associate Professor and Senior Consultant

Department of Obstetrics & Gynaecology

Singapore General Hospital

Address for Correspondence: Assoc Prof Tay Sun Kuie, Department of Obstetrics & Gynaecology, Singapore General Hospital, Outram Road Singapore 169608.

E-mail: gogtsk@sgh.com.sg

the women's conditions satisfactorily, a concerted effort with one coherent management plan is often missing. Indeed, breaches in communication among these caregivers have been identified as the main reason for suboptimal care, leading to maternal morbidity and mortality in the United Kingdom. Worldwide, the increasing tendency of moving obstetric units from isolated maternity hospitals to the vicinity of general hospitals in the design of modern health care structures has provided a golden opportunity for amalgamated obstetrician-physician clinics for care of pregnant women with medical disorders in different subspecialties. Simultaneous participation of physicians and obstetricians allows a seamless management plan to be drawn up for the individual woman. A seemingly rational and logical approach, it takes much political will from both the clinicians and administrators to pay the right emphasis and to invest adequate resources to put the plan to practice. There will be a lot more obstacles and will cost more financially and in manpower to materialise these schemes in stand-alone maternity hospitals.

Some common and important medical disorders in pregnancy are addressed in this issue of *Annals, Academy of Medicine, Singapore* to highlight the special needs and problems of these high-risk pregnant women.

REFERENCES

1. Lewis G, Botting B, Carson C, Cooper G, Hall M, McCormick C, et al. Why mothers die 1997-1999. The fifth report of the Confidential Enquiries in to Maternal Deaths in the United Kingdom.
2. Loh F H, Arulkumaran S, Montan S, Ratnam S S. Maternal mortality: Evolving trends. *Asia Oceania J Obstet Gynaecol* 1994; 20:301-30.
3. Lau G. Are maternal deaths on the ascent in Singapore? A review of maternal morbidity as reflected by coronial casework from 1990 to 1999. *Ann Acad Med Singapore* 2002; 31:261-75.
4. Spellacy W N, Miller S J, Winegar A. Pregnancy after 40 years of age. *Obstet Gynecol* 1986; 68:450-4.
5. Gilbert W M, Nesbitt T S, Danielsen B. Childbearing beyond age 40: pregnancy outcome in 24,032 cases. *Obstet Gynecol* 1999; 93:9-14.
6. Mendelson M A. Pregnancy in women with congenital heart disease. *Am J Cardiol Imaging* 1995; 9:44.
7. Tan P K, Tan A S A, Tan H K, Vathsala A, Tay S K. Pregnancy after renal transplantation: experience in Singapore General Hospital. *Ann Acad Med Singapore* 2002; 31:285-9.
8. Tan L K, Tan H K, Lee C T, Tan A S A. Outcome of pregnancy in Asian women with systemic lupus erythematosus: experience of a single perinatal centre in Singapore. *Ann Acad Med Singapore* 2002; 31:290-5.
9. Tan J Y L. Thrombophilia in pregnancy. *Ann Acad Med Singapore* 2002; 31:328-34.