

resulting poor glycaemic control further exacerbates the problem posed by long-term complications. Urgent action is mandatory.

### 40.3 Diabetes mellitus complicating pregnancy

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Diabetes mellitus is probably the commonest medical complication encountered in pregnancy in Hong Kong. However, the majority of cases are gestational diabetics, which include impaired glucose tolerance (GIGT) and diabetes mellitus (GDM) according to the WHO criteria. In our department in 1996, the incidences of GIGT, GDM and pre-gestational diabetes (PGDM) were 11.9%, 0.9% and 0.17% respectively. While the clinical significance of PGDM is well known, that of GIGT and GDM not requiring insulin therapy is less certain. The latter two categories are generally associated with certain maternal characteristics, such as increased age, weight, body mass index and parity. Although these variables could account for some of the observed increased complication rates, not all the complications could be accounted for. This applies especially to some of the perinatal complications, even after matching for birthweight, that would suggest increased incidence and severity of peripartum hypoxaemia. Furthermore, the increased incidence of large-for-gestational age infants probably explains the higher incidence of birth trauma and asphyxia. The available data therefore indicate that pregnancies complicated by GIGT and GDM belong to a high risk group that requires treatment and close monitoring.

### 40.4 Macrovascular diabetic complications: risk factors and prevention

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Patients with diabetes mellitus, especially type 2 diabetes, are at increased risk of cardiovascular mortality caused by macrovascular or atherosclerotic complications such as coronary heart disease and stroke. This enhanced atherosclerotic tendency is multifactorial in origin. Classical risk factors such as hypertension, dyslipidaemia and obesity are more prevalent in type 2 diabetes, even at the prediabetic stage of impaired glucose tolerance. Diabetes specific factors such as hyperglycaemia, insulin resistance and hyperinsulinaemia probably also contribute to enhanced atherogenesis. More recently, interest has also been focussed on the role of adverse changes in procoagulant and antifibrinolytic activities in type 2 diabetes and, in the presence of nephropathy, in type 1 diabetes as well. Considerable interactions have been demonstrated between the above atherogenic risk factors, some of which may be influenced by the individual's genetic status. The R/Q353 genotype of the factor VII gene and the PAI-1 promoter 4G/5G genotype, for example, regulate the effects of hypertriglycaemia on plasma levels of factor VII and PAI-1 activity respectively. Genetic factors may also influence the atherogenic tendency in the individual patient through direct effects on circulating levels of lipoproteins and prothrombotic factors. Others such as genes of the renin-angiotensin system exert their influences directly on the arterial wall. Improved understanding of the multiple risk factors and their interactions in the pathogenesis of macrovascular complications in diabetic patients should lead to the implementation of better preventive strategies.