Gestational Diabetes Mellitus Screening Using Random Plasma Glucose Measurement at 18 to 22 Weeks of Gestation

Choi Man YAN MRCOG, FHKAM (O&G) Senior Medical Officer
Ka Ming MOK FRCOG, FHKAM (O&G), FHKCOG Consultant & Chief of Service
Department of Obstetrics and Gynaecology, United Christian Hospital, Hong Kong

The aim of this prospective study was to acquire data about random plasma glucose (RPG) levels at 18-22 weeks gestation so as to evaluate our Gestational Diabetes Mellitus (GDM) screening programme at cut-off levels of >= 6.0 mmol/l (last meal < 2 hours) and >= 5.0 mmol/l (last meal >= 2 hours). There were 6,965 deliveries in the 2-year period studied. The prevalence of GDM was 3.58%. The mean RPG levels were 4.97 mmol/l (last meal < 2 hours) and 4.53 mmol/l (last meal >= 2 hours) with standard deviations of 1.11 and 0.82 mmol/l respectively. The sensitivity, specificity, positive predictive value and negative predictive value of our screening programme were respectively 30.20%, 82.12%, 6.87% and 96.42%. We conclude that GDM screening by RPG measurement between 18 and 22 weeks gestation using cut-offs at 80-85th centile levels has a sensitivity of about 30% and a specificity of more than 80%. This, combined with screening by clinical risk factors, achieves a better detection rate of GDM than that by clinical indicators alone. (HKJGOM 2001; 2: 62-67)

Keywords: gestational diabetes mellitus, random plasma glucose, 18-22 week gestation, screening