

## **Preimplantation Genetic Diagnosis for Thalassemia in HK**

Preimplantation Genetic Diagnosis (PGD) is a programme using molecular biology techniques to select genetically normal embryos for replacement to the uterine cavity of a woman in an assisted reproduction cycle. It is offered to women at risk of having babies with serious chromosomal or genetic disorders like thalassemia, to serve as an alternative to prenatal diagnosis, and PGD has the advantage that the couples do not need to undergo the physical and psychological trauma of termination in cases of affected pregnancy.

The Assisted Reproduction Unit together with the Division of Molecular Medicine, Department of Medicine, Faculty of Medicine, HKU at Queen Mary Hospital (QMH) is the first in HK to provide PGD programme for alpha thalassemia.

HK's first livebirths after preimplantation genetic diagnosis for alpha thalassemia were successfully delivered at QMH in December 2004. The couples were both carriers of the alpha thalassemia gene and the wife had two previous spontaneous pregnancies affected by homozygous  $\alpha^0$  thalassemia. Termination of pregnancy was performed at 22 weeks of gestation in the first instance and at 10 weeks in the second one.

PGD brings new hope to couples with hereditary diseases like thalassemia who can give birth to healthy babies. PGD will be performed by the Faculty of Medicine, HKU, for couples who are  $\beta$  thalassemia carriers in the near future.