

## **New developments on prenatal ultrasound scan**

Conventional 2D ultrasound scan can be used to detect prenatal fetal abnormalities. Newly developed 3D and 4D ultrasound scan with a new display modality act a complimentary technology to examine the fetus, study of HKU LKS Faculty of Medicine Department of Obstetrics and Gynaecology revealed.

3D ultrasound scans can display multi-dimensional images to monitor fetal size, examine the fetal face and blood flow; predict growth and detect prenatal structural abnormalities. 4D scans can show real-time updates of fetus images, cleft lip, limbs deformities and heart diseases. Indeed, mothers are safer, both physically and psychologically, to undergo pregnancy termination at an early gestation.

Doctors rely on prenatal invasive tests to detect fetuses affected by severe thalassemia with 0.5-1% miscarriage rate. By the help of 2D scans, high risk pregnant women can be detected if any signs of severe alpha thalassemia were found. If the findings of scan were normal, invasive tests could be saved. Figures illustrate that there is a 100% sensitivity rate of 2D scans in detecting prenatal severe alpha thalassemia. In addition, enlarged placental volume is detected in affected pregnancies through 3D scans. However, non-invasive ultrasound examination is not useful for prenatal detection of severe beta thalassemia, as abnormal ultrasound findings are not noticeable before birth.