majority of cases were detected from first trimester screening in our population, with second trimester screening detecting a significant minority. Few cases were detected from ultrasound abnormalities.

OP02.07
Trend in uptakes of prenatal testing for Down syndrome

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Objectives: To describe any trends in the uptake of prenatal testing for Down syndrome in a public hospital after the introduction of massively parallel sequencing (MPS) in private and the characteristics of women who underwent the latter.
Methods: The uptake of prenatal diagnostic invasive testing after a positive screening test for Down syndrome in one public hospital in 2011 was analysed. With the use of descriptive statistics and the Mann-Whitney test, the uptake rates were compared before and after the introduction of MPS in private in August 2011. The women who underwent the latter were invited to complete a questionnaire.
Results: A total of 4842 Down syndrome screening test was performed in 2011. Compared to the first seven months in 2011, there was a significant increase in the total number of screening test (375.3 vs. 443.0; $P = 0.013$) and first trimester combined screening test (325 vs. 409; $P = 0.001$) performed per month in the subsequent five months. The percentages of a diagnostic invasive test after a positive screening test was decreased significantly from 93.7% to 79.4% ($P = 0.018$) while that of 'doing nothing'remained similar (6.3% vs. 10.1%; $P = 0.639$). About 9.6% of screen positive women went to the private for a MPS. Of 25 women who underwent the MPS, 60.0% aged 35 or above, 68.0% were nulliparous, 64.0% received University or Tertiary education, and 80.0% were working women, and 88.0% regarded themselves knew MPS, mainly from their private obstetrician and web. They answered correctly in 76.8% of the five questions (based on the position statement on MPS released by the ISPD in 2011). In their future pregnancies, 36.0% and 84.0% of them would opt for MPS directly and after a positive screening test respectively.
Conclusions: The percentages of a diagnostic invasive test after a positive screening test was decreased mildly in a public hospital recently, probably related to the uptake of MPS in private by a small proportion of women who were willing to pay to reduce an invasive test.

OP02.08
Safe/Speedy CVS using needle-guide and pre-procedural color/power Doppler

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Objectives: The risk of CVS has still been controversial. CVS has been mostly performed as free-hand method and fetal loss/abortion rate is about 1%. Free-hand method needs expertise and sometimes uterine contraction during tap procedure leads to insufficient sample or the second tap.
Methods: Between 2009 April and 2012 January, we performed 2,360 CVSs with needle-guided method. The equipment used are Voluson E8 Expert (GE healthcare), transabdominal 2D transducer (4C) with needle-guide, combination of 18G PTC needle (15 cm)/20G PTC needle (20 cm). Just before CVS procedure, CRP is examined and CRP +tive patients postponed the procedure. Pre-procedural color/power Doppler for every CVS was introduced from 2011 April. The risk of this method was calculated and compared to published data.
Results: In 2,360 CVS, no case (0%) required multiple tapping excluding 46 DCDA/TCTA. 15 cases (0.64%) had bleeding after procedure. One case (0.04%) had progressive abortion after 4 weeks. Maternal contamination, culture failure were 1/358, 1/358 respectively between April 2009 and January 2010 because of insufficient sample and 0/2002 cases thereafter. There were 4 IUFD cases/1458 (0.27%) with non-hydrops/normal karyotype between 2009 April and 2011 March and after introduction of pre-procedural color/power Doppler for every CVS, 1/902 (0.11%).
Conclusions: Needle-guided CVS has advantages of safe and precise tap with no hesitation because of swift tap, steady sheath during procedure therefore no need of assistant. As for 4 cases of IUFD in the first year of our series, the cause was still unknown but our trial to use color/power Doppler for avoiding tap around cord insertion seems to be helpful for lessening CVS risk. The overall risk was less than 0.5%. Disadvantage of needle guide is only the cost.

OP02.09
Early experience on the clinical utility of Non-Invasive Fetal Trisomy (NIFTY) test by maternal plasma sequencing

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Objectives: To report the early experience of non-invasive prenatal diagnosis of fetal Down syndrome (The NIFTY test) in a clinical setting.
Methods: A retrospective review of 567 pregnant women with a singleton pregnancy at 12 weeks of gestation or beyond who requested the NIFTY test as a screening test for fetal Down syndrome. A satisfaction questionnaire was send to the first 400 patients.
Results: During a 6 month period, 567 NIFTY tests were performed. Over 90% were ethnic Chinese, with a mean age of 36. The test was performed at 12–13 weeks of gestation in 49.21% and at > 20 week in only 4.23%. Before the NIFTY test, 179 (31.6%) were screened positive by prior screening test, 124 (21.9%) were screened to be low risk. 46.6% did not have any prior screening test, or did not wait for the result of prior screening test. The NIFTY report was available within 14 calendar days in 97.18%, with a median of 9 days. In 4 cases, a repeat blood sample was required. The NIFTY test was positive for trisomy 21 in 8 cases, and for trisomy 18 in 1 case, all were confirmed by fetal karyotyping. There was no false positive result. Of the 400 postal questionnaires, 182 completed responses were received. Over 95% indicated that they had complete or almost complete resolution of anxiety over fetal Down syndrome. All except one were satisfied with the NIFTY test, and all indicated that they would recommend the test to their friends. 90.1% consider the reporting time was acceptable. The major limitation of this study was the small sample size and lack of follow up of the screened negative cases, making it not possible to assessment of false negative rate. However, this was not the objective of this study. This issue needs to be address by a very large clinical study. Nonetheless, most recent studies suggested that the false positive rate would be below 1%.
Conclusions: The NIFTY test was a highly sensitive and specific test. With the high specificity, unnecessary invasive tests and associated fetal losses could be avoided in almost all women who have a normal fetus.