

## Simple blood test can determine foetal abnormalities

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In the near future, pregnant women will be able to test for structural, chromosomal and genetic abnormalities in their unborn children through a simple blood test. And this can be done from as early as the first trimester.

With more women having their babies at a later age, the chances of having a baby with genetic, chromosomal or structural defect increase. Women above 35 have a higher chance of having a baby with Downs Syndrome. This can be detected by a test called an amniocentesis, where a needle is inserted into the womb to extract fluid from the placenta. It is invasive and painful, and carries a minor risk of miscarriage of about 1 to 4 percent.

Research at Singapore's National University Hospital could make this a thing of the past. It has found that a pregnant woman carries her baby's genes in her blood. A simple blood test can determine if abnormalities such as anemia or lack of blood are present, or even cystic fibrosis - a condition that will cause respiratory problems in baby girls and baby boys. It can also work to detect blood disorders such as Thalassaemia.

Associate Professor Mahesh Choolani, Consultant at the Department of Obstetrics and Gynecology at the National University Hospital, Singapore said: "I think in Singapore more and more of our mothers are requiring pre-natal diagnosis because many of them, about one in five tend to be pregnant after the age of 35 or in the later years. "If we can harness foetal genetic material from the mother's blood, we can do this without having this invasive procedure." Besides genetic diagnosis, doctors say they can also test for the gender of the baby from as early as six weeks. The gender of 23 babies between six and 36 weeks have been successfully found out using just the mother's blood. This could become available to the public in a few years. NUH is just one of three centres in the world doing research in this field.

It is looking even further into cell therapy in the womb - where babies can be injected with stem cells before they are born to treat certain kinds of abnormalities. Tan Tock Seng Hospital will also present its findings of a recent cancer research, which found that older women wait until the very late stage of cancer before seeing the doctor. The survey also found that Malay women are also two times likely to present cancers in the advanced stage as compared to the other groups.

Dr Patrick Chan, Consultant at Breast Unit of Tan Tock Seng Hospital said: "If the Malay woman is presenting at a later stage because of a lack of awareness in seeking treatment, we feel that we need to reach out to these group of women. We must increase public education especially to target the Malay women.

"I think this year's breast cancer awareness month committee initiated a public forum in Malay and the answer is obvious - that we are trying to reach out to them, to tell these women that breast cancer is a very treatable condition - that if they can come in when their breast symptoms occurs, they come in quickly and seek prompt medication action/ they can get good medical treatment."

It is estimated that Singapore women have a one-in-16 lifetime risk of developing breast cancer. While it is not known why the incidence of breast cancer is so high here, one theory is that it has something to do with lifestyle and diet.

These are just some of the 450 scientific papers that will be presented during the two-day Congress. It is hoped that by sharing information, this will help the healthcare community to target areas that they need to work on, for the health benefit of the whole population. - CNA.