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Scientists find way to predict timing of menopause

4:58am EDT

By Kate Kelland

LONDON (Reuters) - Iranian scientists say they have developed a way of using a simple blood test to predict accurately when women will reach the menopause, offering the chance for women to plan for family and career far in advance.

The test, which measures levels of a hormone produced by cells in the ovaries, was able to predict the age at which women reached menopause to within an average of 4 months, according to data to be presented at the conference of the European Society of Human Reproduction and Embryology in Rome on Monday.

"The results ... could enable us to make a more realistic assessment of women's reproductive status many years before they reach menopause," said Ramezani Tehrani of the Shahid Beheshti University of Medical Sciences in Tehran, who led the study.

Experts commenting on the work agreed it was promising, but said its findings would need to be confirmed in larger trials.

"The possibility of an accurate predictor for menopause is very exciting. People have been looking for something like this for years," said Dagan Wells of the Nuffield Department of Obstetrics and Gynaecology at Oxford University.

The average age for menopause is 51, with ovulation in most women ending sometime between age 40 and 60. But it can happen later or earlier, making it difficult for women who want to develop a career before having babies to know how long to wait.

Tehrani's team took blood samples from 266 women aged between 20 and 49 who were also taking part in another study called the Tehran Lipid and Glucose Study, which started in 1998.

They then measured concentrations of a hormone called the anti-Mullerian Hormone (AMH) that is produced by cells in women's ovaries. AMH controls the development of follicles in the ovaries from which eggs develop, and the scientists suspected it might be useful for judging ovarian function.

STATISTICAL MODEL

The researchers took two more blood samples at three yearly intervals and also collected information on the women's socioeconomic background and reproductive history.

"We developed a statistical model for estimating the age at menopause from a single measurement of AMH concentration," Tehrani explained in a report on the study. "Using this model, we estimated mean average ages at menopause for women at different time points in their reproductive life span."

Tehrani said the results showed "a good level of agreement" between predicted and actual age at menopause for the 63 women in the group who reached menopause during the study.

The average difference between the predicted age and the women's actual age at menopause was a third of a year, and the maximum margin of error was three to four years.

Wells said Tehrani's team appeared to have hit upon a "fairly accurate algorithm" for predicting menopause.

But said it would be important to see if the method could also help predict the time when fertility effectively ends.

"A woman may cease monthly ovulation and experience menopause at 50, but she will probably have been effectively infertile for several years prior to this," he said. "It will be important to let patients know that fertility will have declined greatly in the years preceding the final ovulation."

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Embargo: 00.01 hrs (CEST) Monday 28 June 2010

Researchers develop accurate way to predict the age when women will hit the menopause

Rome, Italy: Researchers have developed a way of accurately predicting when women will hit the menopause using a simple blood test. The average difference between the predicted age and the actual age that the women in their study reached the menopause was only a third of a year, and the maximum margin of error was between three and four years.

Dr Fahimeh Ramezani Tehrani will tell the 26th annual meeting of the European Society of Human Reproduction and Embryology in Rome today (Monday) that her findings have implications for women and their doctors; if the results of the research are supported by larger studies, it means that women will be able to discover early on in their reproductive life what their expected age at menopause will be, so that they can plan when to start a family.

By taking blood samples from 266 women, aged 20-49, who had been enrolled in the much larger Tehran Lipid and Glucose Study, Dr Ramezani Tehrani and her colleagues were able to measure the concentrations of a hormone that is produced by cells in women's ovaries – anti-Mullerian Hormone (AMH). AMH controls the development of follicles in the ovaries, from which oocytes (eggs) develop and it has been suggested that AMH could be used for measuring ovarian function. The researchers took two further blood samples at three yearly intervals, and they also collected information on the women's socioeconomic background and reproductive history. In addition, the women had physical examinations every three years. The Tehran Lipid and Glucose Study is a prospective study that started in 1998 and is still continuing.

Dr Ramezani Tehrani, who is President of the Reproductive Endocrinology Department of the Endocrine Research Centre and a faculty member and Associate Professor of Shahid Beheshti University of Medical Sciences in Tehran, Iran, said: "We developed a statistical model for estimating the age at menopause from a single measurement of AMH concentration in serum from blood samples. Using this model, we estimated mean average ages at menopause for women at different time points in their reproductive life span from varying levels of serum AMH concentration. We were able to show that there was a good level of agreement between ages at menopause estimated by our model and the actual age at menopause for a subgroup of 63 women who reached menopause during the study. The average difference between the

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Test to predict menopause age a step nearer

08:54 GMT, Sunday, 27 June 2010 09:54 UK

By Emma Wilkinson
Health reporter, BBC News, in Rome
Blood tests were used to measure levels of AMH

Doctors are a step closer to accurately predicting the age at which a woman will hit the menopause.

A 12-year Iranian study of 266 women found it was possible to pinpoint the age of menopause by measuring levels of a hormone called AMH.

If proven in further studies, it potentially means women could have more control over when to start a family.

It could be particularly useful for identifying women who may have an early menopause, experts said.

AMH controls the development of follicles in the ovaries from which eggs develop.

The idea of using the hormone to help predict fertility is not a new one.

Tests are already available to look at "ovarian reserve", which indicates if menopause is imminent.

But this is the first time researchers have worked out a formula for linking AMH levels in younger women with future age of menopause.

The issue where we would have a concern is if people become too reassured by this

Stuart Lavery British Fertility Society

In the study 266 women aged between 20 and 49 were monitored through blood samples and physical examinations at three-yearly intervals over a 12-year period.

The researchers, who presented the results at the European Society of Human Reproduction and Embryology conference in Rome, then worked out a mathematical model for estimating the age at menopause from AMH levels in the

predicted age at menopause using our model and the women's actual age was only a third of a year and the maximum margin of error for our model was only three to four years.

“The results from our study could enable us to make a more realistic assessment of women's reproductive status many years before they reach menopause. For example, if a 20-year-old woman has a concentration of serum AMH of 2.8 ng/ml [nanograms per millilitre], we estimate that she will become menopausal between 35-38 years old. To the best of our knowledge this is the first prediction of age at menopause that has resulted from a population-based cohort study. We believe that our estimates of ages at menopause based on AMH levels are of sufficient validity to guide medical practitioners in their day-to-day practice, so that they can help women with their family planning.”

Dr Ramezani Tehrani was able to use the statistical model to identify AMH levels at different ages that would predict if women were likely to have an early menopause (before the age of 45). She found that, for instance, AMH levels of 4.1 ng/ml or less predicted early menopause in 20-year-olds, AMH levels of 3.3 ng/ml predicted it in 25-year-olds, and AMH levels of 2.4 ng/ml predicted it in 30-year-olds.

In contrast, AMH levels of at least 4.5 ng/ml at the age of 20, 3.8 ng/ml at 25 and 2.9 ng/ml at 30 all predicted an age at menopause of over 50 years old. The researchers found that the average age at menopause for the women in their study was approximately 52.

Dr Ramezani Tehrani concluded: “Our findings indicate that AMH is capable of specifying a woman's reproductive status more realistically than chronological age per se. Considering that this is a small study that has looked at women over a period of time, larger studies starting with women in their twenties and following them for several years are needed to validate the accuracy of serum AMH concentration for the prediction of menopause in young women.”

(ends)

Abstract no: O-004 Monday 10.00 hrs CEST (Hall 9)

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Press Office: (Sunday 27 June – Wednesday 30 June)

Mary Rice, Emma Mason, Hanna Hanssen, Elisa Marcellini

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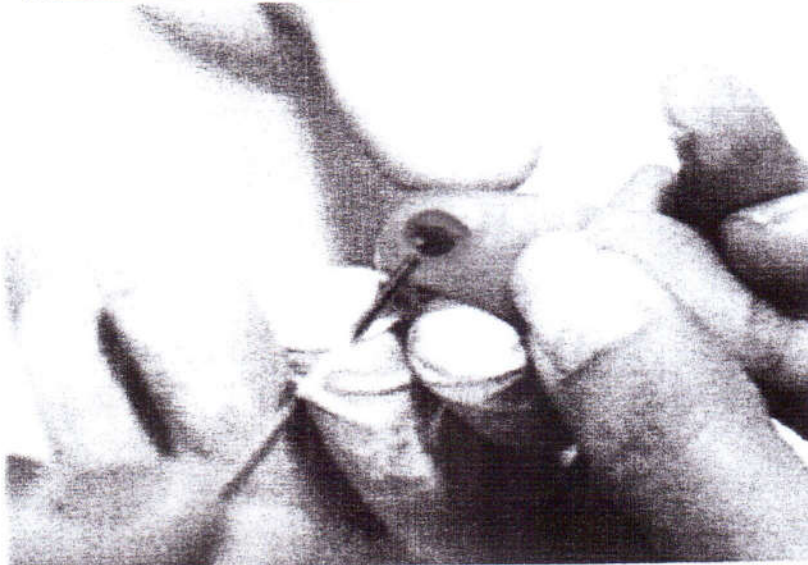


Foto: ANP

Bloedtest kan begin menopauze voorspellen

zondag 27 juni 2010 09:57

ROME (ANP) - Artsen kunnen met een bloedtest gaan voorspellen wanneer de menopauze van een vrouw begint. Dat kan belangrijk zijn om te weten voor vrouwen die op latere leeftijd nog aan een gezin willen beginnen. De European Society of Human Reproduction and Embryology bracht de resultaten van het onderzoek zondag naar buiten.

De onderzoekers keken vooral naar de concentratie van het Anti-Müllers Hormoon, ook wel AMH genoemd. Dat hormoon speelt een rol bij het maken van follikels, waar de eicellen van de vrouw uit voortkomen. Hoe hoger de concentratie van dit hormoon bij vrouwen onder de 45 jaar, hoe groter de kans dat zij in een vervroegde menopauze terechtkomen.

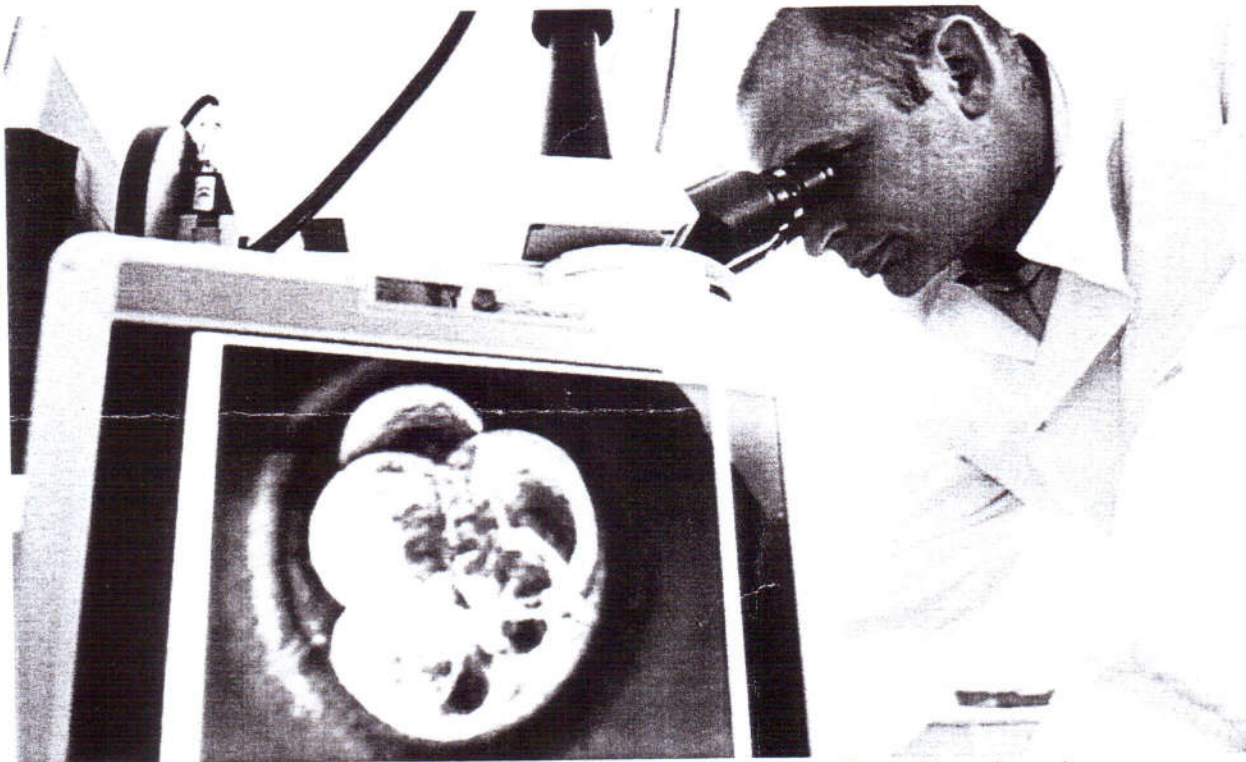
De menopauze is de periode waarin de vrouw haar vruchtbaarheid verliest. Uit het onderzoek, dat volgens de wetenschappers nog op grote schaal herhaald moet worden om de uitkomsten te bevestigen, bleek dat de menopauze gemiddeld op 52-jarige leeftijd begint. De bloedtest kan de menopauze vrij nauwkeurig berekenen: gemiddeld zaten de onderzoekers er vier maanden naast.

Test gives women childbirth deadline

Women as young as 20 could find out exactly when they will cease to be fertile thanks to a test devised by doctors

Jonathan Leake

Published: 27 June 2010



Doctors have devised a test that could tell young women the precise age at which they will no longer be able to have babies.

A blood test that measures levels of a hormone produced by the ovaries could allow women as

The test measures levels of a hormone produced by the ovaries (Owen Humphreys)

young as 20 to pinpoint within a few months when they will cease to be fertile.

The procedure would be valuable to women trying to balance careers with having children. Among western women, the menopause occurs on average at 51. However, about 15% of women experience it early, under the age of 45. And in Britain about 110,000 women in their thirties are going through premature menopause at any given time.

Dr Fahimeh Ramezani Tehrani, who led the research, said in a scientific abstract: "Our results suggest that the novel marker anti-Müllerian hormone (AMH) [produced by the ovaries] could precisely forecast the age at menopause, even in young women."

Tehrani analysed levels of anti-Müllerian hormone in 266 women aged 20-49. The hormone controls the development of the cells in the ovaries from which eggs develop.

It was known that levels of the hormone vary between women and also decline with age. Scientists

Blood test to predict start of a woman's menopause moves closer

Mark Henderson Science Editor, Rome

Last updated June 27 2010 1:34PM

The prospect of a blood test that can predict when a woman will reach menopause has moved closer following new research by Iranian scientists.

Measurements of a reproductive hormone in the blood could provide a reasonably reliable assessment of a woman's likely age at menopause, a 12-year study of 266 women has suggested.

The findings indicate that testing women for anti-Mullerian hormone (AMH), which is produced by the ovaries, could predict when they can expect to go through the menopause, giving them valuable information they could use to plan when they should begin trying to start a family.

Such a test would be particularly valuable for women at risk of having an early menopause, in their 20s or 30s. It would allow them either to try for a baby straight away, or to have eggs frozen for later use while still fertile.

Independent scientists said the research, which will be presented tomorrow at the European Society of Human Reproduction and Embryology conference in Rome, provided the most robust evidence yet that hormone levels can predict menopause age. They cautioned that further research would be needed to confirm the findings: so far, only 63 of the women in the study have reached menopause, and only three of these had an early menopause, below the age of 45.

Experts also pointed out that as fertility declines for several years before menopause, it would be wrong to place too much value on the results of any test.

Stuart Lavery, director of IVF at Hammersmith Hospital and a spokesman for the British Fertility Society, said: "This is an important piece of work. AMH probably represents the best thing we have at the moment [for predicting menopause age], but we have always struggled to get an accurate picture. This prospective study provides useful evidence.

"I would be concerned, though, if women were too reassured by this, and thought that because they have a certain AMH level at 25 they don't need to be concerned about their fertility. People should be very cautious about making judgments about their reproductive potential based on the currently available tests."

Clare Lewis-Jones, of the patient charity Infertility Network UK, said: "Although further research is needed, finding an accurate way to predict the age at which a woman will reach the menopause will be extremely helpful to those considering when to have children.

"Many women now leave this decision until they are in their 30s, and to then discover that they are approaching an early menopause and will have problems conceiving can be devastating for them.

"However, it is important that women are also made aware that other factors can affect their chances of conceiving such as blocked fallopian tubes. Although test results could point to a potential problem with egg reserves and perhaps lead women to seek advice early, a normal result could lull a woman into a false sense of security about her future fertility."

The research, led by **Fahimeh Ramezani Tehrani**, of the Shaheed Beheshti University of Medical Sciences in Tehran, began in 1998 when she recruited 266 volunteers, then aged between 20 and 49, who were taking part in a separate study of blood fat and sugar. Levels of AMH in women's blood were monitored at intervals of three years. A statistical model was used to predict age at menopause.

This technique produced remarkably accurate predictions for the 63 women in the study who have already reached menopause. On average, the predictions were correct to within four months, and the maximum error was four years. The average age at menopause was 52.

"The results from our study could enable us to make a more realistic assessment of a woman's reproductive status many years before she reaches menopause," Dr Ramezani said. "To the best of our knowledge this is the first prediction of age at menopause that has resulted from a population-based cohort study.

"We believe that our estimates of ages at menopause based on AMH levels are of sufficient validity to guide medical practitioners in their day-to-day practice, so they can help women with their family planning.

"Considering that this is a small study that has looked at women over a period of time, larger studies starting with women in their 20s and following them for several years are needed to validate accuracy for prediction of menopause in young women."

Dagan Wells, senior scientific leader at the Nuffield Department of Obstetrics and Gynaecology at the University of Oxford, said: "It would also be dangerous to take this as an absolute. Even if this turns out to be a very good test, fertility will be dramatically reduced in the years leading up to the menopause.

"The main way it would be useful is to help women who are unaware they are likely to experience a premature menopause. It could give women a better idea of just how much time they have left on that biological clock. Most people don't think about egg-freezing

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Predicting the start of menopause: Would you like to know?

Suppose you knew from an early age how old you'd be when you started [menopause](#)? Would you adjust your life plans accordingly?

That's the tantalizing question raised by unpublished research presented Monday at the annual conference of the [European Society of Human Reproduction and Embryology](#) in Rome.

Scientists have found that a simple blood test conducted early in a woman's reproductive life can predict the age at which she will enter menopause.

According to a press release announcing the presentation, lead researcher [Fahimeh Ramezani Tehrani](#) and her team took blood samples from 266 women ages 20 to 49 and measured concentrations of a hormone called [anti-Mullerian Hormone](#), or AMH, which is produced by cells in ovaries. They repeated the tests twice more, at three-year intervals, and used the data to devise a model that ended up accurately predicting, based on AMH levels, the age at which the 63 women in the study who actually went into menopause during the study reached that milestone.

The test missed the mark by an average of a third of a year, the release says, with a margin of error of 3 to 4 years. The average age of menopause among women in the study was 52 years.

While Tehrani notes that further, larger studies are needed to validate her findings, the press release quotes her as saying:

We believe that our estimates of ages at menopause based on AMH levels are of sufficient validity to guide medical practitioners in their day-to-day practice, so that they can help women with their family planning.

Hmm. I suppose it would have been interesting to know right along when my "change of life" would occur. But unless I learned that it would happen extremely early, I'm pretty sure that knowledge wouldn't have made me decide to have children earlier or later.

How about you?

Would knowing early on what age you would reach menopause make you plan your life accordingly?

Yes, I think it would be very valuable in making life decisions.

No, I wouldn't make any decisions based on such information.

Other (please explain in the comments section)

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By Jennifer LaRue Huget | June 27, 2010; 7:43 AM ET
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