

Novel HIV vaccine candidate found safe and responsive

STAR HEALTH REPORT

New research published in The Lancet shows that an experimental HIV-1 vaccine regimen is well-tolerated and generated comparable and robust immune responses against HIV in healthy adults and rhesus monkeys. Moreover, the vaccine candidate protected against infection with an HIV-like virus in monkeys.

Based on the results from this phase 1/2a clinical trial that involved nearly 400 healthy adults, a phase 2b trial has been initiated in southern Africa to determine the safety and efficacy of the HIV-1 vaccine candidate in 2,600 women at risk for acquiring HIV. This is one of only five experimental HIV-1 vaccine concepts that have progressed to efficacy trials in humans in the 35 years of the global HIV/AIDS epidemic.

Previous HIV-1 vaccine candidates have typically been limited to specific regions of the world. The experimental regimens tested in this study are based on 'mosaic' vaccines that take pieces of different HIV viruses and combine them to elicit immune responses against a wide variety of HIV strains.

"These results represent an important milestone. This study demonstrates that the mosaic Ad26 prime, Ad26 plus gp140 boost HIV vaccine candidate induced

robust immune responses in humans and monkeys with comparable magnitude, kinetics, phenotype, and durability and



also provided 67% protection against viral challenge in monkeys", says Professor Dan Barouch, Director of the Centre for Virology and Vaccine Research at Beth Israel Deaconess Medical Centre and Professor of Medicine at Harvard Medical School, Boston, USA who led the study.

Almost 37 million people worldwide are living with HIV/AIDS, with an estimated 1.8 million new cases every year. A safe and effective preventative vaccine is urgently needed to curb the HIV pandemic.

A key hurdle to HIV vaccine development has been the lack of direct comparability between clinical trials and preclinical

studies. To address these methodological issues, Barouch and colleagues evaluated the leading mosaic adenovirus serotype 26 (Ad26)-based HIV-1 vaccine candidates in parallel clinical and pre-clinical studies to identify the optimal HIV vaccine regimen to advance into clinical efficacy trials.

The APPROACH trial recruited 393 healthy, HIV-uninfected adults (aged 18-50 years) from 12 clinics in east Africa, South Africa, Thailand, and the USA between February 2015 and October 2015. Volunteers were randomly assigned to receive either one of seven vaccine combinations or a placebo, and were given four vaccinations over the course of 48 weeks.

Results showed that all vaccine regimens tested were capable of generating anti-HIV immune responses in healthy individuals and were well tolerated, with similar numbers of local and systemic reactions reported in all groups, most of which were mild-to-moderate in severity. Five participants reported at least one vaccine-related grade 3 adverse event such as abdominal pain and diarrhoea, postural dizziness, and back pain. No grade 4 adverse events or deaths were reported.

In a parallel study, the researchers assessed the immunogenicity and protective efficacy of the same Ad26-based mosaic vaccine regimens in 72 rhesus monkeys using a series repeated challenges with simian-human immunodeficiency virus (SHIV) — a virus similar to HIV that infects monkeys.

The Ad26/Ad26 plus gp140 vaccine candidate induced the greatest immune responses in humans and also provided the best protection in monkeys — resulting in complete protection against SHIV infection in two-thirds of the vaccinated animals after six challenges.

The authors note several limitations, including the fact that the relevance of vaccine protection in rhesus monkeys to clinical efficacy in humans remains unclear. They also note that there is no definitive immunological measurement that is known to predict protection against HIV-1 in humans.

HAVE A NICE DAY

The dangers of being 'taken for granted'



A recent study in England found that married people were 14% more likely to survive after a heart attack and they were able to leave the hospital two days' sooner than single people having a heart attack.

Some experts also believe that married people have fewer strokes, survive a major operation more often and a lower chance of becoming depressed. But these results raise another question! Can we in general assume that those were not 'unhappy marriages'? And here comes an important query about the worth of contented environment inside a 'married family house'! Although we cannot say with assurance that a wedded life under one roof is the only reason for that benefit; but we can assume that there is a link between healthy marriage and better health outcomes after a heart attack or stroke.

So, let's find out 5 most common culprits that ruin a good relationship/marriage.

1. Bad and unscrupulous habits of parents/spouse — sometimes we do not understand our bad habits as we usually hate self-criticism. Here comes, the age-old saying 'Everything begins at home'.

2. Disrespecting each other irrespective of their worthiness can procure feelings of hurt, cynicism and overall insecurities which can be hurdles to getting a calm relationship back on track.

3. Faithlessness and sometimes critical adultery is a grave situation which determines whether the relationship will survive or not. Even if it exists, life will be most uncomfortable with miseries.

4. It is said that 'Money is a bad master but good servant'. And as a master, money can divide couples, especially when one has a different approach to spending than the other. Conflicting views on expenditure is risky especially if one is a spender and the other is a saver. In many cases couples have little control over their earnings/finances and it's important to have sacrificing attitude and working out the real priority.

5. Most probably 'taking the partner for granted', would be the greatest problematic issue in a marriage. It is the most common attitude a spouse can have that leads a marriage down the path to unhappiness throughout their married life. Especially at some point after the "passionate love stage" has ended, it is a miserable human nature to start taking each other for granted.

Please remember the following saying about the dangers in taking one's spouse for granted: "You do not know what you have got until it's gone. The truth is — you knew exactly what you had. You just did not think that you were going to lose it".

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HEALTH bulletin



Antidepressant use and long-term weight gain

Antidepressants are associated with weight gain in the short term, but little is known about their long-term effects.

In this population-based cohort study, U.K. researchers determined the long-term associations between antidepressant prescriptions and weight gain in about 300,000 patients who had three or more body-mass index measurements between 2004 and 2014.

In the year of study entry, 13% of men and 22% of women were prescribed antidepressants. During average follow-up of 6 years, the incidence of ≥5% weight gain was significantly higher in participants who were prescribed antidepressants than in those who were not (11.2 vs. 8.1 per 100 person-years).

Initially normal-weight participants who took antidepressants were more likely to become overweight, and initially overweight participants were more likely to become obese.

All antidepressants except paroxetine were associated with risk for weight gain, with the greatest relative increase seen for mirtazapine.

A new tertiary level hospital in Dhaka city with promises

STAR HEALTH DESK

Impulse Hospital, a latest generation private sector hospital, has recently embarked on a joint venture health initiative, with a famous expert team of physicians of Singapore, to render world-class healthcare services to Bangladeshi patients.

The initiative also involves exchanging expertise, training local doctors and medical technicians, and thus help save money, time and hassle in going abroad for better treatment.

The expert team of Singapore physicians comprises a renowned Neurosurgeon of Asia, Doctor Timothy Lee, Senior Consultant Neurosurgeon, Gleneagles Hospital, Mount Elizabeth Hospital; Senior Visiting Consultant of Johns Hopkins Hospital, Dr. Ravi Shankar Krishnamurthy; Hepatobiliary Surgeon, Dr. Leslie Tay; Consultant Interventional Cardiologist, Dr. Yap Lip Ki, Endoscopic Gynecologist; Dr. James Wang, Cardiac Surgeon, and Dr. Chong Lich Lesle, Orthopedic & Trauma Surgeon.

The hospital at Tejgaon in Dhaka city announced its journey officially by organising a press conference last week. Managing Director of the Impulse Hospital, Professor Dr. Ali Zaheer Al-Amin presided over the press conference while the foreign Doctors also spoke on the occasion.

While addressing, Dr. Zaheer Al-



Amin said, renowned physicians of Mount Elizabeth Hospital, Mount Elizabeth Novena, Mount Elizabeth Alvarnia, Raffles Hospital, Gleneagles Hospital, General Hospital and National University of Singapore will visit the Impulse Hospital regularly, see patients and perform surgeries at Impulse Hospital, at a cost at least one-third less than those in Singapore. He also informed that the enlisted Doctors would be available for any emergency need through video conferencing for critical patient consultation.

The hospital management informed that a major objective of their service is to deliver and make available the world class healthcare

close to the vicinity of Bangladeshi patients. It will also increase the capacity of local doctors and nurses eventually.

Catering to the demand of the foreign doctors as well as some renowned Bangladeshi specialists, the hospital had to redesign some of its infrastructure and make available a few cutting edge technologies at their premises. It will enable to provide better services to the patients at an affordable and reasonable cost to the patients which were unlikely in the recent past.

The hospital management revealed some of their future plans of expanding medical studies and hands on training for both doctors and nurses.

Drug that can save thousands of women's lives

A new formulation of a drug to prevent excessive bleeding following childbirth could save thousands of women's lives in low- and lower-middle-income countries, according to a study led by World Health Organisation (WHO) in collaboration with MSD for Mothers and Ferring Pharmaceuticals.

Currently, WHO recommends oxytocin as the first-choice drug for preventing excessive bleeding after childbirth. Oxytocin, however, must be stored and transported at 2–8°C, which is hard to do, in many countries, depriving many women of access to this lifesaving drug.

The study, published in the New England Journal of Medicine, has shown an alternative drug — heat-stable carbetocin — to be as safe and effective as oxytocin in preventing postpartum haemorrhage. This new formulation of carbetocin does not require refrigeration and retains its efficacy for at least 3 years stored at 30 degrees Celsius and 75% relative humidity.

Approximately 70,000 women die every year because of post-partum haemorrhage — increasing the risk that their babies also die within one month.



/StarHealthBD

Emotional bond between humans & dogs dates back 14,000 years

Prehistoric people may well have had an emotional bond with domesticated dogs much earlier than we thought. Leiden Ph.D. candidate and vet Luc Janssens discovered that a dog found at the start of the last century in a grave dating back 14,000 years had been sick for a long time and had been cared for. Publication in the Journal of Archaeological Science. Many dog owners believe their pets are able to pick up on their moods but scientists have demonstrated once and for all that man's best friend can actually recognize emotions in humans. When you feel sad, your dog will immediately pick up on this and adjust his behavior accordingly. He may become more subdued than usual, lose interest in his toys and even refuse his food.

Usually your dog will quietly observe you from a corner of the room. After a while, he may come over and lie down at your feet or gently rest his head in your lap. Many dogs will even try to lick away tears as they fall. A dog's master is the center of his entire world, so sensing your feelings of sadness will have an effect on him too. In a study published in the journal "Animal Cognition," researchers found that a dog was more likely to approach someone who was crying than someone who was humming or talking. Further more they found that dogs respond to weeping with submissive behavior. In other words dogs seem to be trying to placate a person who is upset. What is more dogs will approach anyone who is upset the same way regardless of whether that person is their owner or not.



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