

EBOLA VACCINE IS 100% EFFECTIVE

A recent trial published online in the Lancet has shown that a new vaccine against Ebola virus is 100% effective in the people it has been tested. It is being said that this may go down in history as one of those hallmark public health efforts which will be taught about in public health schools eternally.

The vaccine (rVSV-ZEBOV) was developed using an attenuated vesicular stomatitis virus (VSV) which was engineered to produce an Ebola protein. The Guinea trial – called ‘*Ebola, ça suffit*’ in French (‘Ebola, that’s enough’) – used a daring and pragmatic design, which allowed the researchers to assess this vaccine in the midst of an epidemic. They borrowed a strategy from the small pox vaccination program of the 1970’s – the ring vaccination. The trial had two arms. In the first, adults who had been in contact with confirmed cases of Ebola were vaccinated within 10 days of exposure. In the second, the contacts were vaccinated after 3 weeks of exposure. None of the 2014 adults vaccinated within 10 days of contact with an Ebola patient developed the disease while 16 people who were vaccinated after 3 weeks of contact developed the disease. On the basis of these results, all contacts are now being given an immediate vaccination. Guinea’s Ebola cases have started reducing, and this vaccine offers a lot of hope that the epidemic may soon end.

Why is this trial so important? Ring vaccination has never been used in a formal vaccine trial design. If researchers had used the standard garden variety of randomized control trial, they would have to enrol many more people, and it would have taken lot more time to demonstrate any statistically significant finding. This study not only showed efficacy of a vaccine in a phase III trial, but also helped to control an epidemic. (*Nature news 31 July 2015*)

ERROR OF JUDGMENT IS NOT MEDICAL NEGLIGENCE

In a recent ruling, the National Consumer Disputes Redressal Commission has made an important distinction between error of judgment *vis-a-vis* medical negligence. The complainant charged a doctor in New Delhi with medical negligence for diagnosing tuberculosis when he was subsequently found to have lung cancer with metastasis. The Commission noted that the patient was a heavy smoker and drug addict, and had earlier received treatment for testicular tuberculosis. Advice for investigations and biopsy of the lesion were not followed, and he did not follow-up in the hospital for eight months. The Panel ruled that it was the negligence of the patient for which the doctor is not responsible. In the current atmosphere of distrust and litigation, this is a sweet relief for beleaguered doctors. (*The Hindu 21 July 2015*)

REDUCING ARSENIC IN RICE

The risk of arsenic poisoning is highest for people whose staple diet is rice. Rice is grown in flooded paddy fields. Arsenic occurs naturally in water and soil, and rice has a higher propensity to take up arsenic. Conventionally rice is cooked in water till all the water is soaked up and the arsenic gets bound to the rice. Plant and soil scientists in Belfast (UK), decided to try a new method to cook rice. They found that thoroughly rinsing the rice and cooking it in excessive amounts of water which is progressively discarded helps to reduce the arsenic in rice. They found using a ratio of 12 parts water to one part rice reduces the arsenic by 57%. They then cooked rice in an apparatus that continually condenses steam to produce a fresh supply of distilled hot water, and in an ordinary coffee percolator with a filter, which allows cooking water to drip out of the rice. Testing the rice before and after cooking showed that coffee-pot percolation removed about half the arsenic, and that the laboratory apparatus removed around 60-70%.

This finding may be particularly important for places like Bangladesh where rice is a staple food and the water is naturally high in arsenic. There parboiling is done on a commercial scale, and may offer an opportunity to intervene and reduce arsenic levels. The technique may also help to reduce arsenic in commercial baby foods which use pre-cooked rice. (*Nature news 22 July 2015*)

FOR HIV, TREATMENT IS PREVENTION!

Close on the heels of several large trials documenting that early treatment is beneficial for patients with HIV, the WHO is now working towards a recommendation that all patients with HIV receive early treatment. One of the trials (HPTN 052) tested the hypothesis that treating a patient early after diagnosis will reduce the risk of transmission to his partner. In this study, there was an impressive 96% reduction in transmission to the partner. This led to a change in the protocol of the study where treatment was also offered to the control group. In the 4-year follow-up analysis, the results are still very significant with a 93% reduction in risk of transmission to the partner. Another important trial (START) has shown that very early treatment can reduce the risk of serious infection and death in patients by 57%.

Early treatment appears to have benefits for the patient with HIV, and also plays a key role in preventing transmission. The long time dilemma about whether our focus should be treatment or prevention seems to have ended. As it is very succinctly being put – treatment is prevention. (*Nature news 20 July 2015*)

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