

Researchers identify 6 proteins that are biomarkers for H1N1

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MUMBAI: Mumbai researchers have identified six proteins in nasal swab that could be biomarkers for the H1N1 virus or swine flu infection, revealed the preliminary results of a study.

The study could lead to diagnostic techniques that can detect the disease at an early stage. Currently, swab samples of suspected swine flu or high-risk patients hospitalised with symptoms of breathlessness and co-morbidity are put through a Real Time RT-PCR diagnostic test.

However, the test needs special infrastructure and sophisticated instruments, making it difficult for hospitals or small pathological laboratories to conduct them. The samples are therefore sent to specialised laboratories, which are practically non-existent in smaller towns.

Now, scientists and doctors from Mumbai want to change the

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PROFESSOR AVINASH KALE, University of Mumbai-Department of Atomic Energy Centre for Excellence in Basic Sciences

way swine flu is detected – by rapid identification through a non-invasive diagnostic tool.

“We used nasal and throat swab samples of patients suffering from Acute Respiratory Illness. These swabs will contain a soup of proteins,” said Professor Avinash Kale, University of Mumbai-Department of Atomic Energy Centre for Excellence in Basic Sciences. “We took these nasal swabs, processed them,

and isolated the proteins to identify biomarkers that are unique to swine flu and may therefore be used as diagnostic targets.”

Protein biomarkers indicate the physiological state as well as changes in the patient during various stages of the disease, in addition to identifying specific virus infection at an early stage.

Researchers said a big problem with swine flu is that it becomes endemic quickly. Since H1N1 influenza (pH1N1) spread across the globe after being first discovered in humans in Mexico in 2009 and was known as a pandemic, it now spreads quickly from person to person through the air. Senior citizens, pregnant women, children, and those with compromised immunity are more susceptible to swine flu.

“Swine flu has symptoms fairly common with bacterial infections such as sore throat and breathlessness. As a result, patients with H1N1 get treated with antibiotics that don’t work on viral infections,” said Kale.

