

Role of Statins in Reducing H1N1 Mortality Rates Studied

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(PhysOrg.com) -- Vanderbilt University Medical Center researchers are studying statins, the class of drugs long associated with lowering cholesterol, as a way to reduce H1N1-related deaths.

Gordon Bernard, M.D., associate vice-chancellor for Research at Vanderbilt and a critical care pulmonologist, believes statins may reduce flu-related deaths in the [intensive care unit](#) by as much as half.

“We know from studying infections that it's not always the bacteria that will kill you, but your own reaction to the bacteria can deal a lethal blow. We're learning that statins have an impact on the immune system and can dampen down that deleterious component of the [immune response](#),” Bernard said.

“Statins are extraordinarily efficient at lowering cholesterol by 30 percent to 50 percent. This was a breakthrough for managing high [cholesterol](#). Like so many drugs, including aspirin, it has many additional potential benefits, which were initially unrecognized.”

Bernard hopes to enroll patients in Vanderbilt's intensive care units (ICUs) who present with suspected H1N1 infection, and randomize them into two groups. One group will receive the [statin](#) rosuvastatin (Crestor, manufactured by AstraZeneca) every day for the duration of their hospital stay, and the other group will receive a placebo.

“Once a person with suspected H1N1 reaches the ICU, their mortality can be 20 percent or higher. Statins offer the potential to reduce it to 10

percent. Statins, if effective, could also reduce the patient's time on a mechanical ventilator in half from a current average of 14 days,” Bernard said.

Bernard chose Crestor because of its favorable efficacy and safety profile.

“The statins, in general, are incredibly safe. Crestor effectively lowers LDL-C and has a safety profile that is in line with other marketed statins. Safety will be closely monitored in these studies but is not expected to be a significant issue,” Bernard said.

The study is just getting started at Vanderbilt. Both adults and children 13 and older, with suspected or confirmed influenza who are admitted to the ICU due to respiratory distress, are eligible. Some exclusions apply. Bernard hopes to extend the study to 100 other medical centers in order to capture 2,240 patients before the end of the epidemic. In order to do so, the study needs \$3 million to \$4 million in funding.

“We decided in August we had a problem that needed to be studied in the next several months and that for the trial to be ready to enroll patients from the current epidemic, it had to begin in early fall,” Bernard said. “There is no funding mechanism at the National Institutes of Health, or anywhere else I know of, that could act that fast.

“We have a project that needs funding on an emergency basis. If it's not funded now, it will never get done in our lifetime. This trial provides a unique opportunity to identify the first-ever treatment for influenza other than antivirals, which are clearly not enough.”

Provided by Vanderbilt University Medical Center ([news](#) : [web](#))

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