First Step Taken to Create Cystic Fibrosis Model Using Pigs

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Authors: Researchers of University of Missouri and University of Iowa

Cystic fibrosis has been the basis of study for many researchers over many years. Numerous studies have been implemented to further research the disease and the genes involved, hopefully to find any possible cure for this deadly disease. In laboratory studies, mice have been the primary subjects that were given the altered form of the disease and monitored in order to observe any changes in organ function, such as respiratory problems. However, most studies with mice prove to be ineffective due to the fact that mice do not develop lung diseases that affect humans with cystic fibrosis. Without a comprehensive and in depth study of respiratory illnesses associated with cystic fibrosis, these studies have uncovered little information needed to associate the findings on the human scale. Researchers at the University of Missouri and the University of Iowa have developed a model for cystic fibrosis that could be better compared to a human model. Swine would be a better means for research because pigs’ “anatomy, biochemistry, physiology, size, and genetics” are more like humans than mice are to humans.
The researchers associated with the mentioned universities genetically modified the pigs’ cells in order to present the cystic fibrosis into the bodies of the pigs, a method referred to as nuclear transfer. The goal of the researchers is to copy the lung diseases found in humans affected by cystic fibrosis, in order to better understand the symptoms and results of cystic fibrosis. While this process sounds as though it is a medical breakthrough, there are however, some setbacks. The genetically altered pigs only carry one copy of the mutated gene, not two as properly needed to see signs of cystic fibrosis. So, technically the pigs do not have the cystic fibrosis disease. In response to this, the researchers let the pigs breed naturally, in order to create offspring with both of the necessary copies of the gene. The researchers expect the pigs to represent the disease upon birth sometime in the spring of 2008. If these pigs do carry cystic fibrosis in the future, the amount of information that could be obtained from the research would be outstanding.

Even though the research presented in this paper is not totally expected to give results as hoped for, it is still a genetic breakthrough. The fact that these researchers have altered the genes of the pigs and bred them to create offspring that will most likely have the disease is amazing. This research will lead to more studies that could possibly help in great magnitude the cause for finding a cure for cystic fibrosis. This article that I read caught my attention because of the fact that we are moving up the ladder in educating ourselves more on the deadly disease that is cystic fibrosis. Being a Caucasian male, I found it astonishing that cystic fibrosis is the most common genetic disease among Caucasians and also that the average lifespan of a victim of cystic fibrosis is only 36 years of age. I myself do not hear much about this disease, but this information proves
that this disease is very deadly and nothing to be taken lightly or to be pushed aside. I am glad to know that research is being done, and even though a cure has not been identified, work is being done to find one. All research has to start somewhere and always has room for improvement.