

Volume 2 | Number 1 (Spring/Summer 2016)
www.jheonline.org
ISSN 2474-2309
doi:10.22461/jhea.4.71610



COMMENTARY

Human Experimentation: In the Case of Ellen Roche

ANONYMOUS

Find this and more works at www.jheonline.org

This work is brought to you for free and open access by the Institute of Clinical Bioethics (ICB) at Saint Joseph's University, Philadelphia, PA, U.S.A. It has been accepted for inclusion in *The Journal of Healthcare Ethics & Administration* by editorial board and an authorized administrator of the *JHEA*. For more information, please contact admin@jheonline.org

COMMENTARY

Human Experimentation: In the Case of Ellen Roche

ANONYMOUS

Keywords: justice, human experimentation, beneficence, autonomy.

Dr. Alkis Togias, Associate Professor of Clinical Immunology at Johns Hopkins University, was the principal investigator in a study investigating why healthy people and people with asthma respond so differently to substances that constricted their airways. When the constriction occurs, people without asthma can breathe deeply and make their airways relax, but those with asthma cannot get their airways to relax. The researchers hypothesized that nerves in the lungs controlled this relaxation. They proposed constricting the airways of volunteers with one drug and then giving them a second drug, hexamethonium. That drug temporarily blocks the nerves in their lungs from responding normally. The combination of drugs can simulate an asthma attack. Hexamethonium, however, is not approved by the Food and Drug Administration (FDA). Dr. Togias reported to the Institutional Review Board (IRB) that the main risk of this drug was a temporary drop in blood pressure. His conclusions were reflected in an informed consent form that all volunteers would sign. The consent form did not say that the drug hexamethonium was not approved by the FDA, and it did not say that the drug's safety was uncertain or that the only data on the safety of inhaling it came from the experience of just 20 people. The IRB at Johns Hopkins University approved the protocol Project Number AAC00-07-26-02.

Ellen Roche, a 24 year old technician at the University's Asthma and Allergy Center volunteered for the study. Ms. Roche worked at the Center but not for Dr. Togias. Each volunteer was paid \$365 for their time and effort. She was a healthy young woman and the study was not intended to help her personally. On May 4, 2001 after signing the informed consent form, she inhaled an experimental compound as part of the study to understand the cause of asthma. On May 5, 2001 she began to feel ill. Ms. Roche spent several weeks in an Intensive Care Unit. Her air sacs collapsed, her lungs became stiff, air began to leak out of them, her organs began to fail, and finally, her family decided to remove her from life support. Ms. Roche died from lung failure on June 2, 2001.

An internal investigation determined that the fatal illness was precipitated when Ms. Roche took hexamethonium. The Hospital's Internal Committee wrote in their report that they believed the drug she took "was either solely responsible for the subject's illness or played an important contributory role." The report is being submitted to the Federal Office of Human Research Protection. The FDA and the Department of Health and Human Services is also conducting an investigation into this case. Johns Hopkins University immediately suspended all of the 10 studies being conducted by the Principal Investigator Dr. Togias.

After further investigation, it appears that Dr. Togias apparently missed some research papers suggesting that hexamethonium might injure the lungs. Togias stated that he performed the standard PubMed search for potential hexamethonium toxicity and consulted standard, current edition, textbooks of pharmacology and pulmonary medicine before submitting the application to the IRB. He did not consult with the FDA. It also became known that Ms. Roche was the third subject in the study to inhale hexamethonium. The first subject developed a cough and shortness of breath upon exertion. Those effects lasted for a week. But Dr. Togias failed to report that subject's symptoms to the review board overseeing the study, reasoning that they were not serious and that they were probably due to a cold that was going around in the research unit, or to the acidity of the hexamethonium solution. A few days after the first subject recovered, Ms. Roche took the drug, became ill and went to the hospital. On July 20, 2001 the Office of Human Research Protections issued a letter to Johns Hopkins University suspending almost all the University's medical research involving human subjects. Federal investigators stated that the ethics

committee approved the study by Dr. Togias and had failed to take proper precautions to protect its subjects. Suspending research is an unusual step.

Should Dr. Togias have recognized the possible significance of the first volunteer's reaction to the drug and have reported it to the review board? Should the IRB have required more evidence of safety in regards to the use of hexamethonium? Should the IRB have required Dr. Togias to get FDA approval to do the study? Should the researchers have been required to do preliminary animal studies with this drug before administering it to people? What constituted a sufficient search of the literature in support of a human subject's research application? There is no accepted standard in the medical research community with regard to how extensively one should search for safety information. Was the IRB negligent in not conducting an independent search of the literature because Dr. Togias is an experienced investigator? Was it justified for the Office of Human Research Protections to suspend almost all research at Hopkins using human subjects? Who is responsible for this tragedy?