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Appreciation for Winter Issue

The Journal's winter 2017 issue was a masterpiece of information, and copies should be handed out at every medical office and hospital to all families. Thank you AAPS for standing for Hippocratic medicine.

The article on low-dose radiation by Dr. Bobby R. Scott[1] fascinated me as a former nuclear missile submarine service physician. I concluded years ago that the low levels of radiation in which we lived for months and years would do exactly what this article describes—promote longevity. The Navy Bureau of Medicine and Surgery may have data concerning this issue.

Dr. Orient's review of *The Kingdom of Speech* by Tom Wolfe,[2] which describes his criticisms of evolution, is welcomed by those few of us who have doubted Darwin. Wolfe describes[3] "a web node" entitled "The Mystery of Language Evolution," in which it is stated that "eight heavyweight Evolutionists—linguists, biologists, anthropologists, and computer scientists—were… giving up when it came to the question of where speech—language—comes from and how it works." The conclusion must be that although "speech defines man," speech is inexplicable by man. Evolution fails.

In my books *Happy Ending* and *Everybody* For *Everybody*, I propose a hierarchy of words. They enable the conscious-of-consciousness nature of being human. They should be used with dignity, class, and sophistication; they enable more than we can imagine and more than science can study.

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Vaccine Adjuvant, Suspect in Gulf War Syndrome, Added to Influenza Vaccine

Government manipulation of vaccine-related data, as discussed by Brian Hooker in the last issue,[1] is not unprecedented or restricted to studies of measles-mumps-rubella vaccine.

After serving in the U.S. Navy during Desert Shield, I was a member of the Naval Research Advisory Committee. At that time, around 1993, I had the opportunity to meet with a former colleague who was the lead researcher assigned to figuring out the truth of Gulf War Syndrome (GWS).

Initially, it was concluded that the disorder was most likely due to stress, because of the protean manifestations of the disease and the fact that both victims and non-victims appeared to have the same environmental and vaccine exposures. Most GWS victims were reservists, while most in-theater personnel were on active duty. Thus, it was reasoned that the stress of being unexpectedly jerked out of private life into a combat zone played a causative role in GWS.

Later, it was determined that GWS victims had received vaccine from different production lots than had the non-victims. Much sleuthing was required because the military purposely did not record all anthrax vaccines in service records, and when they did, often it was as "Vac A" or "Vac B."

Some of the lots had squalene adjuvant MF59, and some did not. Subject testing revealed—even in reservists who did not actually deploy to the Gulf—that anti-squalene antibodies were present in nearly all GWS victims and in none of the non-victims.[2,3] Other large studies confirmed the statistically significant positive association between certain vaccines and GWS, but at least

two papers dispute this. Unlike in the randomized controlled study of the reservists, authors of the latter two papers used self-reported symptoms as their diagnostic criteria. This would be expected to artificially inflate the GWS population, and thus obscure any real association. As anthrax expert Dr. Meryl Nass wrote, after noting numerous other confirmatory studies, "…citing research that lacked the power to discern a relationship, and ignoring all studies that did show a relationship, does not enhance confidence in the vaccine. It also calls into question the independence of this CDC vaccine review."[4]

Squalene fell into disrepute for a number of years and was taken out of U.S. vaccines. In 2009, Patricia El Hinnawy, a spokesperson for the U.S. Food and Drug Administration (FDA) said, "There is no squalene in any FDA-approved vaccine in the U.S. There is no squalene in any kind of seasonal flu vaccine or in the H1N1 vaccine." She was quoted in *Wired* magazine to "shatter the myths" spread by irrational fearmongers.[5]

But this year's influenza vaccine Fluad® was fast tracked by Novartis and does contain squalene. In an attempt to block the fast tracking of this vaccine, Barbara Loe Fisher, co-founder and president of the non-profit nongovernmental organization (NGO) National Vaccine Information Center (NVIC), challenged the FDA by saying that Novartis failed to demonstrate that Fluad® with squalene was more effective or safer than an equivalent non-squalene vaccine in the small clinical trial being used to justify accelerated licensure.

In fact, Fluad® was far more reactive. "Compared to Agriflu [a vaccine that does not contain squalene], Fluad produced a much higher number of pain, tenderness, redness and swelling reports; a higher number of systemic adverse event reports and more deaths and cases of new onset chronic disease." Fisher asked, "Why does Fluad need to be fast tracked to licensure for the elderly without additional evidence? There is public concern that fast tracking Fluad is really about fast tracking MF59 to licensure so it can be added to lots of new vaccines targeting infants, pregnant women and every American without adequate evidence for safety or effectiveness."[6]

Even for the most die-hard vaccine advocates, those who put their full faith in FDA honesty, this story should give food for thought and I hope concern. The evidence for squalene as the causative agent for GWS has been accepted into mainstream literature, and along with other known adjuvant-induced diseases, now falls under the rubric of ASIA or autoimmune syndrome induced by adjuvants.[7]

There is no perfectly safe existence, and scientific understanding changes over time. So, the use of squalene years ago, when anthrax on the battlefield was a real potential threat and time was limited, may not constitute criminal negligence. But today, adding squalene while ignoring the growing body of scientific literature, dismissing the irredeemable damage done to veterans, and impugning the reputation of honest doubting physicians who take their Oath of Hippocrates seriously, is totally reprehensible.

Consider also how Novartis introduced squalene clandestinely, after assuring the American public years ago that it had removed all squalene from its drugs, by using a code name (MF-59), and by fast tracking its release, thus giving less time for public and scientific response.

Today, civilians—not just military personnel—have lost their right to avoid taking the vaccine if they want to keep their jobs. That should induce more, not less caution during vaccine development. But it appears that to Big Pharma and its handmaiden FDA, the prime directive is profit, not safety.

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No Increased Risk of Cancer after Long-term Low-dose-rate Radiation Exposure in Taiwan

In the Journal's winter issue, Bobby Scott discussed natural cancer-facilitating oxidative damage and barriers to cancer and their enhancement by low radiation doses, leading to a reduction in natural cancer.[1] Evidence of this radiobiology was studied in the "serendipitous experiment" that started 35 years ago with the inadvertent exposure of those who occupied more than 180 buildings in Taiwan that were constructed using steel contaminated with radioactive cobalt-60.[2] These buildings were constructed in the early to mid-1980s and occupied, starting in 1983, by more than 8,000 people over differing time intervals. It was not until mid-1992 that the people who resided or studied in these buildings began to be identified and informed about this hazard.[2,3] In 1996, residents began to be evacuated from apartments with high radiation levels; half of them were moved as of 2003.[3]

The early analysis by Chen et al. published in this journal in 2004[3] suggested a remarkable decrease in cancer rates in the exposed population. However, a recent article by Hsieh et al.[4] states that risks of leukemia, breast cancers, and all cancers were significantly increased for occupants of the contaminated buildings. The Hsieh et al. study is an update of the cancer risks that were reported by Hwang et al. in 2006[5] and updated in 2008.[6]

In a letter to the editor, Mohan Doss[7] states that Hsieh et al. used Cox proportional risk models to determine the hazard ratios for cancer incidence and claim that dose-dependent risks were statistically significant. These conclusions are similar to those of the 2008 update by Hwang et al. However, the 2006 article by Hwang et al. showed (in Table III) that 95 "all cancers" cases were observed up to the end of 2002, while 114.9 were expected. This is a significant reduction of all cancers following years of exposure to low-dose radiation. Doss pointed out that Hsieh et al. failed to discuss the significant reduction in total cancers in the irradiated cohort. Doss also recommended that additional data with better statistics be obtained before concluding that there is increased risk for

specific cancer types. Use of proportional hazard models for estimating hazard ratios is not justified because the results from such analysis can mask the observation of a reduction of all cancers.[7]

It is not appropriate to simply link a low dose of ionizing radiation, using a mathematical model, to an increased risk of cancer. Because of the high natural incidence of cancers and the many factors that affect cancer risk, it is impossible to establish a statistical relationship between low doses or low levels of radiation and an elevated risk of cancer. It is well known that a high dose or a high dose rate is harmful. Such exposures inhibit or damage the adaptive protection systems and shorten longevity. They may also increase the risk of cancer. However, there is evidence that low doses or a low dose rate of radiation stimulates the protection systems, and this can reduce both radiogenic and non-radiogenic cancer incidence.[8,9]

For the long-term exposures experienced in Taiwan, "cumulative dose" is not a useful statistic. The adaptive protection systems produce more antioxidants to neutralize the radiation-induced reactive oxygen species (ROS) that damage biomolecules, including DNA. The systems that repair the damage caused by ROS and direct radiation "hits" are up-regulated. The systems that remove unrepaired cells are also stimulated, as is the immune system for enhanced destruction of cancer cells, resulting in a lower risk of cancer.[9]

Dose rate is the proper variable for assessing the Taiwan exposures, and longevity (not cancer) is the more appropriate measure of the health effect. Studies on animals and humans generally reveal that there is an increase of lifespan when the ambient dose rate is above the normal background level, but not higher than the threshold for the onset of harmful effects.[9]

The 2004 study by Chen et al. determined, very roughly, the radiation exposures received by the occupants, and calculated the expected cancer mortality using the linear no-threshold (LNT) model.[3] For three cohorts (high, medium and low), it evaluated the mean annual dose in the first year (1983), the 20-year cumulative dose, and the 20-year "collective dose." In 1983, the 1,100 people in the high cohort received doses whose average was about 525 mSv; their 20-year doses averaged 4,000 mSv. In 1983, the 900 people in the medium cohort received doses whose average was about 60 mSv; their 20-year doses averaged 420 mSv.[3] [The equivalent dose, sieverts (Sv), equals absorbed dose, gray (Gy), for gamma radiation. 1 gray equals 1 joule/kg.]

Chen et al. estimated the collective dose of the exposed population to be 4,000 person-Sv, and calculated the expected number of radiogenic excess leukemia and cancer deaths to be about 70, from 1983 to 2002. However, only two leukemia and five cancer deaths were reported during this period among the occupants. Chen et al. could not obtain their registration data and could not correct for the risk factors, such as age at initial exposure. The calculated number of non-radiogenic cancer deaths was 232, assuming the demographics of the occupants to be the same as the population of Taiwan.[3] In fact, the average age of the occupants was younger than that of the comparison population.

The 2006 study by Hwang et al.[5] had the proper registration data for 7,271 subjects and much more accurate information about their individual radiation exposures. Cancer risks were determined and compared with those populations with the same temporal and geographic characteristics in Taiwan by standardized incidence ratios (SIR), adjusted for age and gender. The association of cancer risks with excess cumulative exposure was further evaluated for their relative risks by the Poisson multiple regression analysis. As shown in the first line of Table III in Hwang et al. (2006), for the period 1983-2002, the total number of observed cancers was 95; the expected number was 114.9, and the SIR for all cancers was 0.83 (95% CI: 0.66-0.99). This indicated a significant reduction of "all cancers" after low-dose irradiation.

As mentioned above, dose rate is the proper variable, and longevity is the most appropriate measure of radiogenic health effects. The analysis by Cuttler et al. of a study on groups of dogs exposed to different dose rates of cobalt-60 irradiation revealed a threshold dose rate for the onset of reduced lifespan of 700 mGy per year (see Figure 1 below).[9] Assuming that dogs model humans, a lifespan increase of up to about 15 percent could be expected for a dose rate between the normal background level and the 700 mGy per year threshold for harmful effects. The average 1983 exposure in the high-dose Taiwan cohort was 535 mSv (the equivalent of 525 mGy for gamma radiation), as calculated by Chen et al.[3]

The proper comparison of dose rate vs. longevity has not been reported for the Taiwan experience.

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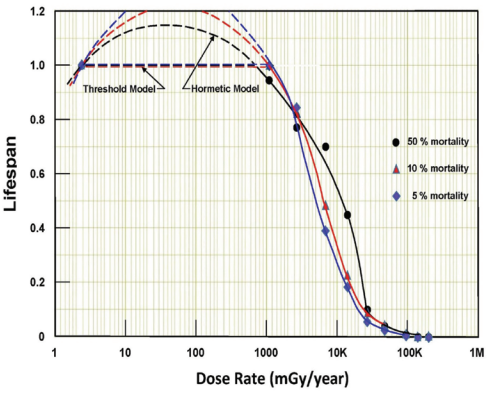

Figure 1. Lifespans of Groups of Dogs at Different Cobalt-60 γ-Radiation Dose Rates. The black dot is the normalized lifespan of the 50% mortality dog in each group. The red triangle and the blue diamond are the normalized lifespans of 10% and 5% mortality (more radiation-sensitive) dogs.[9]