

AFMA frequently writes letters to science journals or submits manuscripts outlining why we disagree with an article that said animal models are predictive. These submissions are rarely published but we expect that considering the vast amounts of money and ego involved in the animal-based research industry. Nevertheless, it is disheartening when correctable errors of fact are made by the lead US science journal, *Science*, and the editors refuse to publish our letter or even an unattributed correction. Below are two examples of errors of fact that *Science* refused to correct.

Dear Editor,

In G. Miller's interview with Dario Ringach (March 12, 2010 p. 1315), Miller quotes Ringach as stating that Americans For Medical Advancement (AFMA) opposes animal research. While this is a common misconception, it is in fact false (1). AFMA questions the use of animals as predictive models for humans in drug testing and disease research. It acknowledges that research with animals has in the past contributed to our knowledge of life in general and humans specifically. It has no ethical issues with research or other scientific pursuits involving animals and the Board of Directors is composed of both vegans and carnivores. AFMA also acknowledges numerous areas where research with animals or the study of animals is scientifically viable and does not oppose such uses. For more on AFMA's official position please see *Animal Models in Light of Evolution* (2).

References

1. See www.AFMA-curedisease.org.
2. N. Shanks and R. Greek. *Animal Models in Light of Evolution*. Brown Walker (2009).

(I thank Dario Ringach for pointing out that in his above-mentioned interview the attribution that AFMA was opposed to animals in research was in brackets and was therefore supplied by *Science*, not an actual quote from him. While I appreciate this fact and thank Dr Ringach for not attributing to us positions we do not hold, my criticism of *Science* reporting misinformation is actually made stronger by this knowledge.)

The second example is, if anything, even more egregious as *Science* allows to stand a factually incorrect representation of the scientific process in the testing of a vaccine that eventually harmed humans. I spoke with a representative of *Science* at the AAAS meeting in 2003 and was assured a retraction or correction would be made but needless to say that never happened. Instead of reproducing the letter I will describe the situation.

Another example of nonhuman primates failing to accurately predict human response was in 2002 when Schenk et al. at Elan Pharmaceuticals in collaboration with Wyeth-Ayerst were forced to halt Phase II studies on their vaccine for Alzheimer's disease (called AN1792) after the discovery that 15 patients (out of 360) had developed severe autoimmune encephalitis. (Eventually 6% of the participants would develop this (Town 2009).) Some used this failure as a reason for promoting testing such drugs on nonhuman primates. In December 2002, Cambridge University initiated a hearing to explore the need for building a center exclusively for the study of nonhuman primates. I testified at the hearing. (The judge/inspector that presided over the hearing ruled in our

favor and after more hubbub the center was never built.) According to *Science* magazine's December 6, 2002, article: "Inquiry Turns Into OK Corral for U.K. Primate Research," the key scientific expert for Cambridge, Sir Keith Peters, head of Cambridge University Hospital's Clinical School testified that "a national need for primate research is 'self-evident' and had gone through 'particularly stringent peer review.'" The article continued:

It was the opponents' turn to stumble when they attempted to support provocative claims that new drugs are not necessarily safer if they are tested in primates. Claiming that primate research has not yielded any insights into diseases such as atherosclerosis, cancer, and stroke, Ray Greek, medical director of a group called Europeans for (sic) Medical Advancement, concluded that "the abandonment of animal models is absolutely vital for medicine to advance." As evidence that primate research is unnecessary, Wald referred to an Alzheimer's vaccine that had moved directly from mouse experiments into clinical trials last year. Apparently, he was unaware that in January, the clinical trials were halted after 15 patients developed severe brain inflammation. Peters knew this, however, and noted, "You will find you have shot yourself in the foot, Mr. Wald." (Page 2002) See <http://sciencemag.org/cgi/reprint/298/5600/1862.pdf> for full article.

Left unsubstantiated was Sir Keith's testimony that moving the recently failed vaccine for Alzheimer's disease straight from mice to humans was "irresponsible" and dangerous and that the vaccine should have been tested on primates before being given to humans. Sir Keith said that if the vaccine had been tested on nonhuman primates the adverse side effect of brain inflammation would have been seen and the clinical trials avoided or the drug modified. In fact, Schenk, the developer of the vaccine, and his team *did* use monkeys to test AN-1792 for its safety, as well as rabbits and guinea pigs. Marwick:

Further animal studies included treating healthy monkeys with AN-1792 for more than 3 months to establish safety. The vaccine seems safe and is well tolerated, said Schenk, adding, "We found virtually no sign of any problems in the animals whatsoever." The safety profile developed from these data was submitted to the US Food and Drug Administration (FDA), and phase 1 clinical studies were begun this spring. (Marwick 2000)

Mistakes happen, but refusing to correct them reveals an attitude that is inconsistent with and damaging to the principles of science.

References

- Marwick, C. 2000. Promising vaccine treatment for Alzheimer disease found. *JAMA* 284 (12):1503-5.
- Page, K. 2002. Medical research. Inquiry turns into OK corral for U.K. primate research. *Science* 298 (5600):1862-3.

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CNS Neurol Disord Drug Targets 8 (2):114-27.