

Reacting to Research Fraud Fails to Address Underlying Incentives to Commit Fraud

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Two remarkable research fraud stories surfaced in Japan within weeks of each other. First, Osaka University revealed in September 2006 that a professor had falsified data in two different scientific articles.¹ Second, news reports surfaced less than two weeks later that a surgeon employed by the National Defense Medical College in Japan apparently forged data on breast cancer treatment in an article published in the U.S. journal *Surgery*.²

While the fact that some Japanese scientists may have committed research fraud is not in itself remarkable, the nature of the fraud itself is fascinating, and speaks to a chief problem with research fraud in general: most attempts to manage such fraud, are purely reactive and devote little energy to addressing the attitudes and culture of biomedical research that create significant incentives to commit such fraud. Of course, this is not to suggest that such fraud should be condoned; quite the contrary. However, fully addressing the international problem of research fraud requires analysis of how and why the problem arises, rather than simply attempting to manage the fraud once it has already occurred.

It would be quite the understatement to say that the stakes of research fraud are high. This is so for all involved. The Osaka University report involved Professor Akio Sugino, who apparently “falsified image data for discourses on DNA research” in two separate articles, both of which were published in the *Journal of Biological Chemistry*.³ However, the fraud initially came to light in the context of a police investigation into the suicide of one “Yasuo Kawasaki, a 42-year-old assistant professor at Osaka University.”⁴ Mr. Kawasaki committed suicide on September 1, mere weeks after Osaka University began its investigation (August 9) into whether Sugino had committed fraud.⁵ Kawasaki had been a co-author on one of the questionable papers.⁶

While authorities at Osaka University denied any connection between the research fraud and Kawasaki’s suicide,⁷ the authors of the *Nature* article pointed to several other troubling aspects of the situation. Sugino, who was the head of Kawasaki’s lab, had apparently submitted the first paper for publication “without checking with all of his co-

¹ Ichiko Fuyuno & David Cyranoski, *Mystery Surrounds Lab Death*, 443 NATURE 253 (2006).

² Japan Econ. Newswire, *Defense College Surgeon Doctored Paper for U.S. Periodical*, Oct. 05, 2006, at 16.

³ Fuyuno & Cyranoksi, *supra* note 1, at 253.

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

authors.”⁸ “According to Japanese press reports, Kawasaki subsequently found that some of his data had been changed, so he asked Sugino to withdraw the article, and informed [the dean of the Graduate School].”⁹ In addition, there were some unusual elements to the suicide itself. Kawasaki killed himself by ingesting poison, which is an “extremely rare” method of suicide in Japan.¹⁰ Moreover, his suicide note began by stating that “[t]hings at work have settled down. I want to resolve the problem.”¹¹ The ethics committee at Osaka University recently reiterated that Kawasaki’s suicide was not linked to Sugino’s misconduct, and that Sugino acted alone in committing fraud.¹² However, given that “Japanese universities often respond slowly to suspicions of fraud[] and aren’t known for their transparency,”¹³ it seems fair to question Osaka University’s insistence that there was no link between Sugino’s fraud and Kawasaki’s suicide.

Regardless of whether Kawasaki’s suicide is linked to the research fraud, another important question is why Sugino, described by scientists in the field as “well respected and of high integrity,”¹⁴ would commit such fraud. Apparently, “Sugino told the university’s ethics committee that he falsified data for one of the papers because he was in a hurry to publish it”¹⁵ This speaks to the tremendous pressures on scientific investigators in general, the inducements to commit fraud. One commentator observes that “[scientific m]isconduct is induced by the competitiveness of the field, the pressures of the scientific community to publish papers, and by motives to influence peers or to obtain secondary gain, for example monetary awards from patent royalties.”¹⁶

Of course, as this suggests, there are significant incentives to falsify data that are disconnected from any hope of pecuniary gain. Consider, for example, the well-known fraud committed in South Africa regarding the trials of the regimen of high-dose chemotherapy combined with autologous bone marrow transplants.¹⁷ The researcher’s fraud there was at least not primarily motivated by the desire for pecuniary gain, but by (1) the immense social and academic pressure to confirm the efficacy of the bone marrow therapy, which was already being used all over the world; and by (2) “the pursuit of progress or knowledge [so as] to elevate an investigator in the eyes of his peers.”¹⁸

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² *Japanese Researcher Admits Fabricating Data*, 443 NATURE 383 (2006).

¹³ Fuyuno & Cyranoksi, *supra* note 1, at 253.

¹⁴ *Id.*

¹⁵ Japan Econ. Newswire, *Osaka Univeristy Says Researcher Faked Data in Scientific Papers*, Sept. 22, 2006, at 28.

¹⁶ Bratislav Stankovic, Comment, *Pulp Fiction: Reflections on Scientific Misconduct*, 2004 WIS. L. REV. 975, 977 (2004).

¹⁷ See, e.g., Daniel S. Goldberg, *Research Fraud: A Sui Generis Problem Demands a Sui Generis Solution*, 20 T.M. COOLEY L. REV. 47, 50 (2003).

¹⁸ *Id.*

Indeed, it may be plausible to suggest that the very fact that there is such widespread clinical disagreement¹⁹ on the best ways or ways to treat any particular patient with breast cancer may exacerbate the pre-existing inducements to commit fraud. A BMJ article demonstrated that there is profound disagreement over whether mammography is an efficacious diagnostic tool,²⁰ let alone regarding the appropriate treatment for any particular patient with breast cancer. Given this context, it may be somewhat unsurprising that the later-reported case of Japanese research fraud involved breast cancer treatment.

The article in question concerned “accelerated partial breast irradiation,” and was published in the May 2006 issue of *Surgery*.²¹ According to one Japanese press report,

[i]t presented cases of operations on 12 patients but in fact no surgery was conducted on five of the 12 and the data of pathological examinations were forged, the college said. The remaining seven patients underwent irradiation treatment after their operations but the article said their conditions improved without irradiation.²²

The College discovered the fraud when one of the six co-authors, who were apparently wholly unaware “that they had been cited as authors or were not aware of what was written,”²³ contacted the College. The editors of *Surgery* retracted the article in September.²⁴

The stakes, at least as to breast cancer, should not be understated. The bone marrow therapy alluded to earlier carried high mortality risks.²⁵ It is entirely possible that the therapy speeded or had some kind of causal factor in the deaths of some of the cancer patients who underwent the regimen.²⁶ Of course, Sato’s admitted fraud is not remotely analogous to the bone marrow treatment fraud on this point, and the editors of *Surgery* promptly retracted the article as soon as they became aware of the fraud.²⁷ The important

¹⁹ See, e.g., American Cancer Society, *Treatment of Earliest Stage Breast Cancer Varies Widely* (2004), http://www.cancer.org/docroot/NWS/content/NWS_1_1x_Treatment_of_Earliest_Stage_Breast_Cancer_Varies_Widely.asp; Online radio broadcast: Joanne Silberner, *Treatment Varies Widely for Early Breast Cancer Type*, NAT’L PUB. RADIO (2004), <http://www.npr.org/templates/story/story.php?storyId=1773339>.

²⁰ See Susan Mayor, *Row Over Breast Cancer Screening Shows that Scientists Bring “Some Subjectivity Into Their Work*, 323 BRIT. MED. J 956 (2001).

²¹ Kazuhiko Sato et al., *Efficacy of Accelerated Partial Breast Irradiation as a Neoadjuvant Treatment for Patients with Breast Cancer: A Pilot Study*, 139 SURGERY 617 (2006) (retracted).

²² Japan Econ. Newswire, *supra* note 2, at 16.

²³ *Id.*

²⁴ *Id.*

²⁵ Goldberg, *supra* note 17, at 54.

²⁶ This is not to suggest any kind of definitive conclusion on whether high-dose chemotherapy combined with autologous bone marrow transplantation actually *caused* the deaths of the patients who tried the therapy. Medical causation is a notoriously problematic concept. See, e.g., Danielle Conway-Jones, *Factual Causation in Toxic Tort Litigation: A Philosophical View of Proof and Certainty in Uncertain Disciplines*, 35 U. RICHMOND L. REV. 875 (2002). However, even the mere possibility that the regimen, which was not efficacious, worsened any individual patient’s chances of surviving should illustrate the importance of the specter of fraudulent studies on that regimen.

²⁷ Japan Econ. Newswire, *supra* note 2, at 16.

point here is that the stakes of research fraud may be considerably higher than some might imagine, at least in certain contentious and weighty areas of clinical research like breast cancer protocols.

The notion that much is at stake for at least some kinds of research fraud in some areas of clinical research renders all the more significant the imperative to reduce the prevalence of such fraud. Unfortunately, much of the reaction to research fraud is just that – reaction – and does nothing to reduce or reform the pressures and incentives that drive researchers to commit fraud. Managing and responding to research fraud once it is publicized is of course important, but, other than the possibility of a deterrent effect, which is difficult to quantify and assess for efficacy, such management is not intended to address and ameliorate the pressures that induce investigators to commit such fraud.²⁸

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²⁸ Of course, this is to say nothing of the deep-seeded problems in the disciplinary process, at least in the U.S., with regard to scientific misconduct in general. *See* Stankovic, *supra* note 16, at 1009-1010; Goldberg, *supra* note 17, at 58-67.