

Fditorial



Who dares, wins?

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Despite the tremendous achievements of tissue engineering, its clinical counterpart, regenerative medicine, has rather been slow in delivering on its promise of producing natural organs from synthetic materials. It appeared that Dr. Paolo Macchiarini had broken through the stalemate in regenerative medicine when he performed an operation in which a synthetic trachea seeded with stem cells was transplanted into a patient, which later he reported to be successful in a renowned journal (doi: 10.1016/S0140-6736(11)61715-7).

Since then, Dr. Macchiarini, who was a visiting professor at the Karolinska Institute in Sweden, had achieved worldwide fame in this pioneering field. As Meredith Vieira, a well-known American journalist, once stated, he was "the doctor who does the seemingly impossible, going where no other has yet dared."

He inserted synthetic tracheas into eight patients and reported that the tracheas had been successfully integrated in every case. In 2014, however, his colleagues at the Karolinska Institute who were involved in the care of those patients filed complaints. They provided medical records showing alleged inconsistencies with the published data and even called into question Dr. Macchiarini's previous paper on animal experiments that he had used to justify the clinical application of his technique to humans (doi: 10.1038/nprot.2014.149).

In two separate filings in June and August 2014, he was accused of having falsified claims in his studies, while the Karolinska Institute commissioned an external expert to inspect the charges. In May 2015, the investigator concluded that Dr. Macchiarini was guilty of research misconduct and that he had overstated his results in six of the seven articles reviewed.

To our dismay, however, he was officially cleared of scientific misconduct charges by the vice chancellor of the Karolinska Institute after considering the evidence Dr. Macchiarini submitted in his own defense. According to the Karolinska Institute statement, Dr. Macchiarini "did act without due care" but "it does not qualify as scientific misconduct."

Professor Emeritus Bengt Gerdin at Uppsala University, who was originally brought in by the Karolinska Institute to investigate this case, criticized the decision, and these concerns were echoed by the chair of the Institute, considering the possibility that the Institute's integrity could be questioned in its key role in selecting the recipient of the Nobel Prize in Physiology or Medicine every year.

Recently, Dr. Macchiarini was dismissed from the Karolinska Institute, which will soon undertake a new investigation. To maintain the soundness and credibility of science, we support this most recent decision of the Karolinska Institute and look forward to a detailed report.

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