

REVISION OF CASE STUDIES CITI PROGRAMME

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Peer Review and Controversial Research

Dr. Marie Rolands is a professor in the Microbiology and Immunology department of a regional Caribbean university. She has published widely in her field of HIV immunology and vaccine development, teaches undergraduates and graduates, attends conferences, and runs two PAHO-Ministry of Health-funded research projects. Recently, she has decided to pursue an area of research that challenged an established way in which HIV vaccines were developed. The main supporters of the conventional paradigm are two immunologists, Dr. Stephen Jones and Dr. Claude Marcus, who work at a prestigious university in Great Britain; she is a graduate of that university.

Introducción

Dr. Rolands has performed numerous animal experiments and collected growing evidence of what she perceives to be a myriad of flaws in the Jones-Marcus method. She wrote a paper that presented her research findings, analysis, and critiques, and she submitted it to the International Journal of Immunotherapy. The editor of the journal sent the paper to Drs. Jones and Marcus and two other investigators for peer review. Drs. Jones and Marcus both provided a lengthy critique of Dr. Rolands' paper, challenging her disagreement with their methods on several points. As a result, they both recommended that the editor reject the paper. The third and fourth reviewers were split as to whether it should be published.

The editor rejected the paper but sent Dr. Rolands a copy of the reviewers' comments, which were signed openly and forthrightly by Drs. Jones and Marcus. Although peer review is often provided anonymously in biomedical journals, some reviewers sign their names to reviews

Dr. Rolands took issue with each of the points that Drs. Jones and Marcus made and performed a series of follow-up experiments to point out what she believed were the flaws in their arguments. A few months later, she drafted another paper, in which she mentioned the criticisms of Drs. Jones and Marcus as part of the publication. She was concerned about submitting the manuscript, because she was fearful that Drs. Jones and Marcus would suppress her findings

again. She felt that she could not resubmit it to the International Journal of Immunotherapy, because she knew that the editor was friendly with Drs. Jones and Marcus socially and also because she felt that the editor probably didn't want to publish the highly controversial research findings .

Could it be that Dr. Rolands' challenge of Drs. Jones and Marcus is personal and not professional?

Should Dr. Rolands point out to the editor of the first journal his potential conflict of interest?

Dr. Rowlands persevered and sent the manuscript to another journal, Clinical Immunology. Knowing that Drs. Jones and Marcus might get upset if she used and cited their peer-review comments with their names as the foundation of a revised paper, she explained her actions and the history of the paper to the editor of Journal of Immunotherapy and sent a copy of the article to Drs. Jones and Marcus. Dr. Rolands asked the editor if it might be possible to send the paper to neutral parties so that she could get a more balanced review of her his work. The editor, however, said that he felt he would have to send it to Drs. Jones and Marcus, because they were the most qualified to understand the science. The paper was rejected again.

How can someone whose research is being "attacked" provide an honest appraisal of the critique?

What recourse does Dr. Rolands have now that her paper has been rejected two times?

Share and Share Alike?

Johnnie is a postgraduate student in the department of genetics at a national Caribbean university renowned for its research on the human genome. For his thesis research, he is mapping a gene involved in blood-sugar homeostasis. His work is part of a larger, multi-centre study of the genetics of diabetes. The larger study involves several thousand patients and includes information such as socioeconomic class, gender, activity level, weight, and other medical data. Blood and DNA samples are maintained in Johnnie's lab along with a database that links unique identifiers—but not patient names—with the data. The study coordinator at each site has access to the encryption key; however, the students and other researchers working on the project do not. Researchers may use the database to retrieve and enter data pertaining to the samples, but they cannot learn the identity of the individuals in the study. The study is said to be anonymised.

Informed consent

The subject/patients involved in the study were recruited at various study sites across the country including several rural communities. On first contact with a potential participant, a genetic counsellor explains the study and arranges for a meeting to begin the informed consent process. During this meeting, participants learn about the aims of the project, their role as subjects, and the risks and benefits involved in participation. The consent forms state that blood and DNA samples and the resulting data will be anonymised, that subjects may withdraw at any

time, and that samples will be used exclusively for this study. If individual participants' samples are to be used in unrelated research, they must be re-contacted and they must go through a second consent process, specific to the new study.

Let's share the sample

Johnny's project involves a subset of several hundred samples from the diabetes study. One day, Renee, one of the other graduate students in the lab, approaches Jim and starts asking questions about the samples he's working with. She explains that for her work on sickle-cell anaemia and mutations in a haemoglobin gene in African-descended people she needs 50 ethnically matched control samples. Since Johnnie has access to such a large collection of samples, Renee asks if she can take small aliquots of some of his samples from the diabetes study. She tells Jim that she will not be looking at disease in these patients and is not really doing a "study" on them. She just needs them as controls, and she doesn't even need that much DNA. "Which box are they in?" Renee asks, as she heads for the freezer. Renee was standing at the freezer with the door open when Johnnie said, "I don't mind telling you about the samples, but you better talk with Dr Burgess; she is the study coordinator and can give you more information about getting consent from the diabetes study participants if you really want to use them for your study." He went on, "Another option, which might be faster, is to just order a set of anonymous samples from a commercial DNA bank in the US. It would really be a pain to re-contact all of those people just for a set of controls." [There are no commercial DNA banks in the Caribbean region.] Renee responds that the funding for her study does not involve paying commercial rates for control samples and that many of the participants, especially the rural ones, didn't really understand informed consent any way so it wasn't a problem using their samples.

What is Responsible Peer Review?

Dr. John Leonard is one of very few molecular biologists working in a particular field. Dr. Leonard receives a paper to review, about a protein called Survivin, which he and a graduate student in his laboratory are researching. The article was submitted by Dr. Mark Morris to Protein Interactions, a medium-impact journal, and the editor asked Dr. Leonard and two other experts in the field to review the paper. The article suggests a new interaction between Survivin and the protein GFX and provides evidence for the idea that both proteins are necessary for the full survival-promoting function of Survivin in a cell. The article also claims that if there is too much Survivin inside cells, they die.

What types of conflict of interest might arise when someone is asked to review a paper or grant application?

1.- Probabilidad y Magnitud de Daño

The paper is fraught with problems: poor controls, inconsistent data in figures, and alternative explanations are not considered and claims are overstated. Dr. Leonard gives the paper to his graduate student Charlene Thomas, who gives it a detailed critique and recommends significant

revisions. Ms. Thomas has never reviewed an article before, and Dr. Leonard thinks that doing so would be a good educational experience for her. Ms. Thomas notes Morris' finding that too much Survivin is toxic to cells. She has had a problem keeping her cells alive, but, has not considered that it might be a function of protein concentration. She discusses it with Dr. Leonard. Both agree that they should lower the dosage of Survivin in her experiments; the cells receiving the lower dose actually survive for a week, longer than they had before, and then they die.

Is it ever appropriate for a peer reviewer to give a paper to a graduate student for review? If so, how should the reviewer do so?

Dr. Leonard submits Ms. Thomas's and his own comments about the research to the editor, suggesting that the paper be accepted only after a few more experiments are performed to validate some of the conclusions. One of the other reviewers has comments similar to Dr. Leonard's, and the editor asks Dr. Morris, the author, to make the revisions before the Journal will accept the paper.

But in the next few weeks the interaction between GFX and Survivin that is discussed in the paper remains in Dr. Leonard's mind. GFX was not a line of inquiry that Dr. Leonard and Ms. Thomas were following in their research. They were focusing on other stimulatory proteins, but unsuccessfully. Dr. Leonard suggests to Ms. Thomas that she add a compound to the cell culture system that stimulates the cell to produce its own GFX, a method that is somewhat different from what was in the paper by Dr. Morris that is under review. Dr. Leonard knows this is risky as his experiments were stimulated by the review of the confidential data. The enhancement method works. The cells live for a month.

Is it ever appropriate for a reviewer to use ideas from a paper under review, even if the reviewer's method to achieve a result is different from that used in the paper under review? If so, how should the reviewer proceed?

Ms. Thomas and Dr. Leonard draft a paper based on the results, which includes appropriate controls. *Science*, a prestigious journal, accepts the paper. Several months later, *Protein Interactions* publishes a revised paper from the laboratory of Dr. Morris. But after Dr. Morris sees the article in *Science* he suspects that Dr. Leonard, who was an anonymous peer reviewer on the paper, might have taken some of the ideas for the *Science* article from his paper under review.

What are some of the challenges in the current peer-review process, in which the peer reviewer is anonymous but the author is known to the reviewer?

Dr. Morris knows that Dr. Leonard hadn't been working on GFX because it was hard to purify, and Morris deduces that Leonard used material in the unpublished manuscript to solve his problems related to cell survival in culture. Naturally, Dr. Morris is upset and concerned that the peer review process didn't work for him.

What recourse is there for Dr. Morris if he suspects that his ideas were plagiarized?

Publication Cartel

The University is under pressure from cutbacks and this coupled with the regular pressure to publish or perish. A junior researcher in the field of primate biology is approached by another junior colleague in genetics who proposes that they co-author a paper together. She agrees but the collaboration goes no further. Several months later, the colleague from genetics sends her a copy of a paper with both their names on it. It was published in a reputable regional science journal, The Antilles Medical Journal. The colleague from genetics then calls her up to say that he has given her “one for her CV” and she needs to ensure that he is named on her next publication.

Duplication of project

Mr R Smith from an UN-sponsored funding agency receives a funding proposal from the biomedical unit of a Caribbean university. The Agency is keen to fund biomedical research that capitalises on the advantages of the non-indigenous flora and fauna. This research utilises the larvae of a beetle that feeds on the marijuana plant to isolate compounds for the treatment of HIV. His unit fully fund the project. Three months later at a cocktail function with some of his colleagues from the Agency he shares with W. Winston his excitement about the project that is now underway. Winston is very taken aback and says that the projects sound similar to one that his unit is currently funding. The next day they compare notes and realise that the same proposal had been submitted by two different teams from the biomedical unit at the university to two different units at the Agency.

Stolen Project

A Senior Researcher in a research centre in the University sits on a panel of judges that makes decisions on government-sponsored research grants. He is a feared custodian of his research area, which involves the synthesizing of enzymes for the treatment of malaria and related illnesses. He, of course, considers himself to be the local expert. As the chief judge, he receives copies of all proposals for funding and reviews them first. A confidential proposal comes before him for funding to investigate a synthesised enzyme that can be used in the treatment of a tropical ailment from which many people in the region suffer. It was submitted by junior colleagues in his research unit without his approval. Clearly the junior colleagues have been conducting unauthorised research. He questions the colleagues’ ability to effectively pursue the research. He retains the proposal and revises it slightly and submits it to another funding agency. He receives funding to undertake the project.

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Jamaica - REVISION OF CASE STUDIES CARIBBEAN EXAMPLES FINAL VERSION SEPTEMBER 8 Questions

This modules has no questions.

Jamaica - REVISION OF CASE STUDIES CARIBBEAN EXAMPLES FINAL VERSION SEPTEMBER 8 References

This module has no references.