Author's Commentary on "Collaboration and Credit"

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Collaboration and Credit

This case revolves around an interdepartmental and cross-disciplinary research discussion group dynamic found at many medical schools and medical research centers. The situation allows for the discussion of several issues depending on the audience and the time available for discussion. The most obvious ethical concern is that Dr. Kent presented data that originated from another lab without the consent of that lab chief (Dr. Barry). However, additional, more subtle secondary issues can also be addressed. The overall message from this case study is the need to establish defined roles involving dissemination and control of data in a research discussion group or joint lab meeting environment. The perspectives of each person involved in the case (i.e., Dr. Barry, John, Dr. Kent and Jim, who represents the greater scientific community) are discussed below.

Dr Barry has a responsibility to John to ensure that he receives proper credit for his work, particularly since, as a graduate student, John will be significantly affected if he and Dr. Barry are scooped by competitors. More importantly, however, she has a responsibility to be sure John understands what defines appropriate scientific practice. If she does not address Dr. Kent's unethical behavior, John might get the message that Dr. Kent's actions are acceptable in the scientific community.

Dr. Barry must also consider that, as a junior faculty member, she is under a great deal of pressure to publish multiple articles in first-rate journals and to actively pursue extramural funding. If John's findings are reproducible, then she must weigh her responsibilities to her own development as a scientist and tenure-seeking faculty member with her responsibilities as John's mentor. A consulting and/or collaborative connection with a major pharmaceutical company would no doubt be a lucrative relationship. However, she must determine the impact of such a decision on John and the other students and post-doctoral fellows for whose training she is currently responsible. An additional aspect of establishing an association with the pharmaceutical company who approached Dr. Kent is that she would be

strengthening her ties with Dr. Kent. Considering his previous unethical behavior, aligning herself with Dr. Kent is probably not a prudent choice. Moreover, she does not know how John's replicate experiments will turn out. If they do not reflect Dr. Kent's presentation results, then the pharmaceutical company will probably rescind its offer to collaborate and Dr. Barry will be left with a tainted reputation. These are important discussion points for students, but can also be elaborated on by faculty.

While it is justified to condemn Dr. Kent for his actions, it is also possible to use him as an example of the enormous pressure under which medical school faculty function. This is another opportunity to bring faculty into the discussion for comments on how to deal with such temptations. As the Director of the Breast Cancer Center, Dr. Kent is under more pressure than most to be a productive physician-scientist. He probably has substantial clinical duties in addition to his research activities. Since his lab has not been particularly productive in the past few months, it is possible that he simply made a bad decision in presenting Johns findings. However, Dr. Kent's culpability is compounded by his apparent fabrication of data. At the discussion group meeting, John clearly presented his findings as preliminary with one set of replicates (three mice per treatment group); however, Dr. Kent presented the results of multiple experiments in a bar graph format. Either Dr. Kent miraculously replicated the experiments in a matter of weeks, or he fabricated the replicate data. Unfortunately, the former is most likely as *in vivo* experiments often require months to complete. This point is not explicitly stated in the case study, and it offers an opportunity to play out scenarios for discussion (i.e., have participants consider what would changes if Kent did nor did not fabricate the data). A more subtle point is that Kent is trained as a physician, not a scientist; that might have a dramatic effect on Kent's perspective. Physicians often have different notions regarding the communal use of data within a research group. This point might also generate discussion on the scope research ethics training at the institutional level (i.e., all persons engaged in research activities would benefit from such training, not just graduate students). Physicians are not likely to be as sensitive to the competitive nature of science as a basic science faculty members might be. Moreover, MDs and MD/PhDs are more likely to receive funding for clinically relevant research grants; Kent may not be aware of the intense competition for new or younger PhDs in the basic sciences to obtain and sustain funding. Second, Kent probably has never trained a graduate student and is not familiar with the role of a mentor in graduate student research training. Thus, he might be ignorant of the value of John's work to his future as an independent

scientist. Finally, physicians are often more concerned with expediting the flow of information, particularly novel, efficacious therapeutics from the bench to the bedside. Dr. Kent's comments to Dr. Barry are an attempt to stimulate this line of discussion. Participants can debate the pros and cons of such motivations.

Another perspective to consider is that of John. This case places John in a precarious position. He must trust Dr. Barry to represent his interests with Dr. Kent and to assert her (and his) right to control the dissemination of the data. Dr. Kent's premature presentation has left John in the position of having to publish these data as soon as possible, ideally before any competing labs can perform similar experiments. A point of discussion revolved around the consequences of John's project turning into a collaboration with the pharmaceutical company. This possibility leads to a host of issues including publication rights and sources of research dollars among others. Each of these topics can be integrated into the case study depending on the time allotted for discussion and the audience.

Jim represents the greater scientific community and researchers in the breast cancer field in particular. Clearly, other breast cancer investigators have a vested interest in obtaining data and information like John's research. The practice and advancement of science depend upon the publication and dissemination of new results. However, if Kent fabricated a portion of the results he presented, then Jim and the rest of the scientific community cannot depend on the research to guide their own. For the greater community of researchers, it is more useful to have complete sets of data with valid results and conclusions that might not be very interesting than to have incomplete or invalid sets of data with erroneous conclusions that appear more exciting. In the latter case, investigators will waste time, energy and resources following up an artifact.

Taking all these perspectives and issues into consideration, Dr. Barry has a few options for a plan of action. As a junior faculty member she is in rather dangerous territory. However, since Dr. Kent does not hold an appointment in her department, he has no tangible control over her professional future at the university (i.e., tenure decision, etc.). Barry will first need to solicit the opinion and support of other members of the Breast Cancer Group. Her next move should be to contact her department chairperson and discuss the incident. This way she may be able to gain support from other faculty who are on more even ground with Kent (tenured full professors). Next, or alternatively, depending on the relationship with her chair, she should report the matter to the Office of Research or the Office of Research

Integrity. This is an excellent opportunity to discuss the appropriate institutional policies and procedures regarding issues like scientific misconduct and whistle blowing. As a last resort, Barry can also contact the International Breast Cancer Meeting organizing committee or society directly. However, before taking such action with an organization outside the university it is best to go through the proper institutional channels. The organizing committee and/or society could then be contacted in an official statement from the university. This way Dr. Barry would not need to be mentioned specifically. This anonymity might be important as she could be discriminated against in future dealings with the International Breast Cancer organization.

The onus rests with Dr Barry; she is confronted with a number of dilemmas and has a variety of responsibilities. Dr. Kent's actions are clearly unacceptable and highlight what can happen when ground rules for control of data are not established in a group meeting or joint lab meeting setting. It is important to include options that will help to avoid such situations. One choice is to refuse to participate in discussion groups. That is not a very realistic option since much can be learned in such meetings. A better option is for Kent to confer with Barry regarding his upcoming presentation and ask for her permission to mention the findings. Perhaps the two of them could develop a more traditional collaboration on the project. Finally, this case highlights the need for the development of clear guidelines for the discussion group's operation (i.e, Kent's role in handling dissemination of findings) before the first research presentations. This way each investigator is aware of the ground rules for the group and situations like the one described can be avoided.