Select Agent Publications and the H5N1 Flu Virus Controversy: a JVI Perspective

The Editor in Chief of the Journal of Virology shares his experience with submissions dealing with select agent viruses in light of the recent H5N1 developments

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I would like to discuss the Journal of Virology (JVI)/ASM publication policies on select agent work and to update you on where I stand on what is happening with the recent National Science Advisory Board for Biosecurity (NSABB) decision to redact some information from two H5N1 influenza virus papers. I am a member of the NSABB, but what I discuss here will be my own thoughts and ideas.

ASM publications follow a simple set of guidelines. First, we believe strongly that good science should be published in its entirety after peer review. Accordingly, we require that all primary data be accessible, that DNA sequences be filed in GenBank, that structural coordinates should be available, etc. Second, we also understand that science should do no harm. Accordingly, we require that all papers have vetted animal use and human subject protocols and that appropriate biosafety and biosecurity procedures have been followed. We also have set guidelines based on principles set forth by the National Academy of Sciences and the NSABB that attempt to deal with experiments in seven categories most likely to fall into “dual use research of concern.” These categories are “yellow lights” or “caution signals” that require extra attention to be sure that the work does not cause or have the potential to cause harm. We have a check box in our review forms for reviewers to indicate if they have concerns about the biosafety/biosecurity of the studies. When the box is marked, the Editor in Chief (EIC) checks out the concerns and discusses the merits of publication with the ASM Publications Board director. In addition, all manuscripts that deal with agents on the HHS/USDA select agent list are flagged by publications staff and vetted by the EIC and the Publications Board director. I see two to five of these select agent manuscripts per week.

So far, in my 10-year experience as JVI EIC, we have published more than 20,000 virology papers, and maybe 10 to 20% of them deal with select agent viruses. JVI has never stopped publication of a paper for dual use concerns, nor have we ever redacted any information. We have seen papers that caught our attention. I have asked for a rewrite of a particularly sensationalized introduction once, as I recall. Concerns have been raised about several manuscripts, most often by reviewers, and we have reviewed these manuscripts in detail before clearing them for publication. Recently, one accepted manuscript was placed on hold while the author reconsiders biosafety and biosecurity issues that were raised by him/her, not JVI.

More specific to the debate on the two H5N1 papers in the news, JVI continues to receive, review, and publish work on this important virus. We published at least 30 H5N1 papers in the last year or so. You can be sure that I closely read every manuscript. Let me stress that there is no movement at all to block all H5N1 work, and ASM and JVI are in the clear for all our published work. The papers we have accepted provide no enhancement of harmful phenotypes, either attempted or produced. There is no inconsistency in JVI or in ASM’s judgment vis-à-vis recent NSABB deliberations.

The key difference in all of the JVI/H5N1 papers currently published or in the pipeline is that none of these studies created new H5N1 mutants with mammalian aerosol transmissibility (one of the seven experiments of concern). I always refer to
the Fink report from the National Academies for these seven “yellow light” experiments when I look at select agent papers. I must admit that I am truly conflicted by the papers reviewed by the NSABB; I suppose this conflict is the true sign that I’m looking at real dual use research of concern. People I know and trust say “publish—these data have to get out;” while other colleagues I also know and trust say “these are dangerous studies that never should have been done or should have been done under stipulations that the data be distributed only to those who need to know.” I know that as part of a global scientific enterprise, we need to learn all we can about this virus (safely) so we can develop effective vaccines and countermeasures. I also know that an aerosol-transmitted H5N1 virus that infects mammals has some possibility of doing great harm to humans and other mammals, because mammals have no experience with such a virus. I tend to err on the conservative side when I do not know for sure.

Would ASM have published the two H5N1 influenza virus papers? If they were submitted to JVI, I definitely would have flagged them and asked the Publications Board for help. I suspect we may have gone to the NSABB for advice, just as Science and Nature did. So we cannot always take the high ground and publish everything, letting the risks and benefits sort themselves out in the real world. Sometimes, I argue, we have to say “stop” and “think” and ask “how do we communicate?” I dislike the concept of redaction of scientific knowledge, but I also want to be sure to do no harm.

Personally, I hope redaction never happens again. Its value, other than causing the community to stop and think, is uncertain in this day and age of rapid communication. From my own perspective, these decisions should be made early in the game, not at the point of publication, by journal editors or by government review panels. For all JVI authors, my advice is think carefully about your planned experiments and consider these issues in advance, well before you write and upload your manuscripts for review.

SUGGESTED READING