

Self-criticism in *Behçet's Disease and Other Autoinflammatory Conditions*

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If one agrees that an honest and serious attempt at falsification of our too dear hypotheses is the very essence of the scientific method (1) it surely follows that we should make an honest attempt to self-criticism in our manuscripts as well.

It is to be noted that up to the point of manuscript preparation our *honest* attempt at falsification has only to do with how we design and conduct our study and interpret our results paying due attention to the well-known issues of internal and external validity among which are appropriate selection of the study and the control groups, the accuracy and the reproducibility of the measurement tools we use and, where needed, sound statistical analysis. Above all, we should try to limit our conclusions to what we observe, shying away from extrapolation as much as possible.

However, in preparing the scientific manuscript the breadth of our scientific honesty significantly widens. Why is this so? It is often forgotten that a very, if not the most important aim of writing and, hopefully publishing, our manuscript is to expose our work, this time, to general falsification. Our peer reviewers, if we submit our work to a respectable journal, are often our foremost scientific rivals. Then, if deservedly or by luck and sometimes by both, our work gets published, then the real criticism begins. The hypothesis that we could not successfully falsify by our work is now open to the whole of scientific community to falsify.

So in preparing our manuscript, we must make sure that we include an honest display of any weaknesses in patient/control selection, limitations of our methods and instruments in the collection of our data and finally any potentially incongruent conclusions we

may have reached and discussed, again based on our data. In doing this we should not only point to issues that we discuss in our paper (self-criticism) but also should refrain from hiding them from others to criticise. This whole process may sound almost “masochistic” to many readers. While it is usually the authors themselves who best know what the main weaknesses of their work were (2) many young authors eventually find out that “a fair and honest display” of their weaknesses usually turns out to be main strength of their work.

Having said that, many manuscripts, even in our best journals with high impact factors, do not include any formal self-critique. In 2005, among articles published in 8 well recognised journals (50 articles/journal) there were only 67 articles (17%) that indicated self-critique (2).

Our first author had the impression that self-critique was particularly lacking in basic science manuscripts. Yazici *et al.* analysed the discussion sections of the original articles in the 3 mostly read rheumatology journals for 3 selected months in 2012 (3). During these 3 months there were a total of 223 original articles in *Annals of the Rheumatic Diseases*, *Arthritis and Rheumatism* and *Rheumatology* (Oxford). Authors sought the presence of self-criticism both electronically searching for the word limit or its derivations and also by reading through each discussion for self-criticism otherwise voiced. To summarise, the frequency of authors admitting limitations of their work was around 25% among the basic and 75% among the clinical science articles. So the hypothesis was correct. We speculated maybe this was at least one of the reasons why the conversation between bench and the bedside was frequently non satisfactory.

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This more emphasis on self-criticism in clinical science also reflects itself in other ways and disciplines. For example a very highly regarded, and rightfully, clinical science journal, *Annals of Internal Medicine* demands self-criticism in the submitted manuscripts starting from the abstract. This, we do not see in our better basic science journals. It was indeed disconcerting that when one of us (HY) asked a speaker in publishing in basic science why this was so, during a recent American College of Rheumatology meeting, the answer was that the *those journals which mainly publish basic science articles do not highlight self-criticism in their authorship guidelines* (4).

We have recently tried to formally quantitate self-criticism in *Behçet's Disease and Other Autoinflammatory Conditions*. We considered the discussion sections in each of the 61 full-length original articles published between 2009 and 2013.

The same methodology was used as in the previous work (3). In addition to the 2 parameters of self-criticism assessed we added the third item of "the presence or the absence of a special paragraph mainly devoted to self-criticism". The results are shown in Table I. It is to be noted that the amount of self-criticism as judged by presence of any was 64% for one and 82% for the other observer. These percentages are somewhat higher than what was observed in 3 other rheumatology journals – (41% for one and 61% for the, then, other observer (3). Moreover, the more obvious difference between the clinical and basic science articles in the previous work

Table I. Self-criticism in *Behçet's Disease and Other Autoinflammatory Conditions*.

	HY			RT		
	electronic n (%)	any n (%)	paragraph n (%)	electronic n (%)	any n (%)	paragraph n (%)
Basic n=24	4 (17)	14 (58)	4 (17)	4 (17)	14 (58)	0
Clinical n=37	15 (40)	25 (68)	12 (32)	15 (40)	21 (57)	0
Total n=61	19 (31)	39 (64)	16 (26)	19 (31)	51 (82)	0
	$p=0.08$			$p=0.08$		

Self-criticism according to 2 observers.

(3) was less obvious here with only the differences in the frequency of self-criticism between basic and clinical work approaching the traditional significance when judged by electronic screening only. Possible explanations are *a.* the lower total number articles surveyed in the current work and *b.* the general "more clinical" content of some of the articles classified as basic science in the current work. Nevertheless it was gratifying to note the amount of thus measured self-criticism in our Supplement was, if anything, somewhat higher than the 3 other rheumatology journals with higher impact factors.

There are further and more important considerations. The tools we have been using to quantitate self-criticism here and before (3) have been rather crude and simplistic. Some of the criticism we observed might well have been displayed only to comply with the authorship guidelines of a particular journal or merely to please the reviewers. In the instances this has indeed been so our scientific honesty indeed suffered. Many a time the only self-criticism we have observed in our tabulations has been a statement to the fact that more

valid results will be obtained after studying more patients. While this sort of declaration is certainly better than basing all observations on 9 mice divided into 3 groups and yet not acknowledging apparent limitation of the numbers and the genus of the probands, only cliché self-criticisms are certainly to be discouraged.

We invite more attention to self-criticism, not only to its quantity but certainly to its quality as well, in the future issues of *Behçet's Disease and Other Autoinflammatory Conditions*.

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