

CORRESPONDENCE

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Effect of *in vitro* aspirin stimulation on basophils in patients with aspirin-exacerbated respiratory disease

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We read with great interest the article published by Çelik et al. in the October issue [1]. The authors state that basophil activation test (BAT) is not a useful tool for the *in vitro* diagnosis of NSAID hypersensitivity. The authors compare their results with previous results published by our group [2]. In our last study [3] using five different NSAIDs in parallel including 152 NSAID intolerant patients and 136 controls, 57% of 140 patients presented very clear-cut positive BAT results to multiple NSAIDs, and 16% were entirely negative. In about 27% of the cases, positive results were obtained with 1 or 2 concentrations of a single NSAID. In that study, sensitivity of BAT when combining ASA, diclofenac and naproxen was found to be 75% and specificity around 90%. However, it was also observed that the leucocyte isolation method used may influence the reactions in ASA tolerant controls: some normal individuals may also show dose-dependent basophil activation to various NSAIDs, which appears related to their pharmacological COX-1 inhibiting effect [3].

The authors found that an aspirin maximal dose of 5 mg/mL yielded unspecific basophil stimulation. This dose was used in our first study [2]. We agree with the authors since we reported in our study that 5 mg/mL rendered unspecific activation 'Since the highest ASA concentration yielded 2 positive results out of 19 in the controls (Table 2), it was decided to take into account for diagnostic evaluation only the two lowest ASA concentrations which yield a specificity of 100%'. For that reason we use as maximal concentration 1.25 mg/mL [2]. As the authors mentioned, the differences between our results and theirs could be due to technical issues. As we demonstrated [3, 4] the results are greatly influenced by the use of buffy coat or total leucocytes. In our experience, the Percoll isolation gradient can induce unspecific basophil activation (data not shown). This is why we do not use any cell isolation product but centrifugation in our protocol

[2]. As we refer in that multi-centric study [3] some inflammatory process or antigen exposure conditions could cause unspecific basophil activation in atopic controls. We agree with the authors that this point has to be explored before proposing BAT technique as a routine diagnostic tool for NSAID hypersensitivity.

Our discrepant results show the need to explore the mechanisms involved in NSAID hypersensitivity and depict those technical factors that can influence on NSAID basophil activation mechanisms.

References

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- 2 Sanz ML, Gamboa P, de Weck AL. A new combined test with flowcytometric basophil activation and determination of sulfidoleukotrienes is useful for *in vitro* diagnosis of hypersensitivity to aspirin and other nonsteroidal anti-inflammatory drugs. *Int Arch Allergy Immunol* 2005; 136:58–72.
- 3 De Weck AL, Sanz ML, Gamboa PM *et al.* Nonsteroidal anti-inflammatory drug hypersensitivity syndrome. A multicenter study. I. Clinical findings and *in vitro* diagnosis. *J Investig Allergol Clin Immunol* 2009; 19:355–69.
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We appreciate the clarifications by Dr Sanz and Gamboa about the importance of technical procedures, especially