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Basophil activation test — brief comment and response

Test aktywacji bazofilów — krótki komentarz i odpowiedź

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To the Editor,

There is no doubt that during performance basophil activation test (BAT) many factors influencing the procedure must be taken under consideration. These include many issues connected with pre-laboratory stage, laboratory procedure (performance of basophil activation test) and evaluation or interpretation of the results. Many concerns raised by the Author of the comments [1] are connected to phenotyping protocol. In presented case BAT was performed with commercial available kit with respect to the instruction (FlowCAST highsens Bühlmann Laboratories, Switzerland). An allergen used in the assay (acetylsalicylic acid-lysine) was also from commercial source. Flow cytometer used to analysis was Becton Dickinson, FACSCanto II. In order to capture basophils from whole blood sample identification protocol contained as a selection marker for basophils monoclonal antibody anti-CCR3-PE (eotaxin receptor, CD193). Additionally, due to the fact that it does exist also on eosinophils, therefore the separation by side scatter, to distinguish between this two cell populations, was performed. Basophils were gathered in a low side-scatter cells region. Two positive controls were performed — fMLP and antibody to FcεRI. The basophil activation was assessed by anti-CD63/CD203c — PE-DY647. Spontaneously activated basophils were

estimated on 2–2,5% (patients background sample). CCR3 as a selection marker is thought to be expressed on basophils surface in a high level [2].

In the gating protocol we do not use IL-3 to enhance the basophils responsiveness. The analyses were based on the cut off values suggested by the test's producer. We are preparing our own, detailed analyses of patients population diagnosed to NSAIDS hypersensitivity containing comparison of medical history, laboratory diagnostic method and *in vivo* challenge test.

Regarding to nomenclature non releaser and nonresponder subject — these two name can be founded in articles [3, 4].

The nonsteroidal anti-inflammatory drugs hypersensitivity reactions present a wide range of clinical symptoms, one of their manifestation is anaphylaxis. In presented case of a patient who has undergone anaphylactic shock other possible causes of reaction were eliminated. Detailed medical history did not reveal any previous reaction after contact with supposed allergens, which could help in carrying out of the diagnosis. Furthermore, patient did not suffer from any comorbidities — i.e. asthma, chronic sinusitis with nasal polyps or chronic pruritus (AERD, NIUA), which may enhance the probability of NSAIDs hypersensitivity. According to the guidelines [5] the oral challenge test should be performed to confirm the diagnosis. However,

in the case of severe anaphylaxis provocation test is not recommended.

Many aspects, that have to be taken in account in performance and assessment of basophil activation test, raise many doubts and questions regarding this diagnostic assay. It is worth noting that multiple protocols use in clinical and scientific work confirm development of this branch of diagnostic methods and the need of searching new suitable protocol elements. There is no one „gold standard” in performing procedure, that preclude in many cases comparison of BAT results. Mentioned by the Author “Consensus Panel” may suggest some standard leading to guidelines. Open discussion on the journal pages and BAT concerned meetings like EuroBat that held in December 2014 are good examples of this process.

Conflict of interest

The author declares no conflict of interest.

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