

# CORRELATION BETWEEN THE CLINICAL FORM OF ALLERGIC RHINITIS AND NASAL CYTOLOGY

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## OBJECTIVE

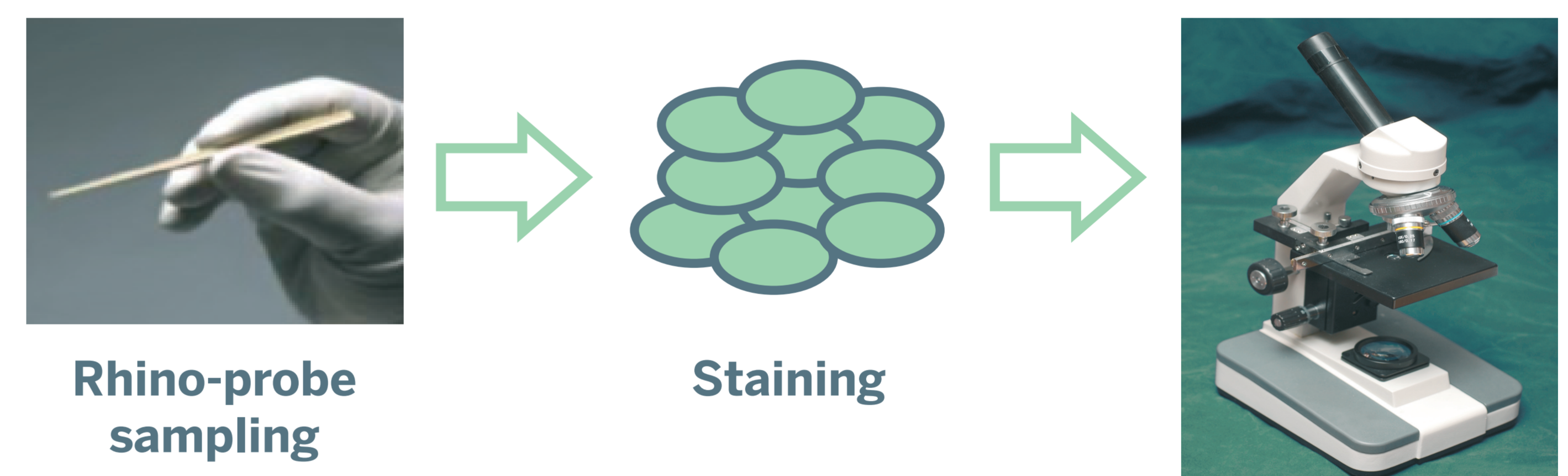
The clinical characteristics of allergic rhinitis (AR) were classified in the Allergic Rhinitis and its Impact on Asthma (ARIA) document according to its duration, that defines the intermittent or persistent forms, and to the effects of nasal symptoms on daily activity and sleep, that define the mild and moderate/severe forms. The aim of this

study was to assess the correlation between the clinical forms of AR and the nasal cytology in order to have a new tool for an appropriate and objective characterization of moderate-severe AR.

## METHODS

The study population was formed by 62 patients (34 males, 28 females, mean age 35.2 years) with AR caused by sensitization to grass pollen. In all patients, AR was defined according to ARIA classification and nasal cytology was performed by Rhino-probe sampling, staining and reading by optical microscope (Fig. 1). The association between AR symptoms and cell types in nasal cytology was analyzed by the chi squared test.

Figure 1. The 3-step procedure performed for nasal cytology

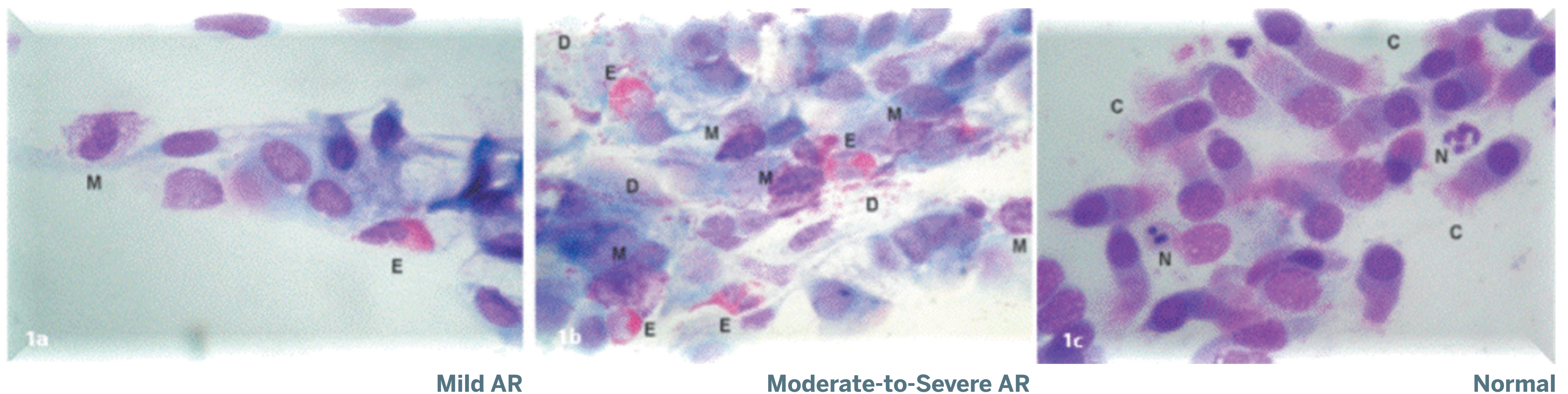


## RESULTS

The distribution of clinical forms of AR was as follows: 21 patients (33.9%) had a mild intermittent, 21 (33.9%) a moderate/severe intermittent, 9 (14.5%) a mild persistent, and 11 (17.7%) a moderate severe persistent AR. The most common symptoms were nasal blockage (76.2%), rhinorrhea (71.4%), sneezing (38.1%), and nasal itching (9.5%). Nasal cytology detected neutrophils in 49 patients (29 with intermittent and 20 with persistent AR), eosinophils in

41 patients (24 with intermittent and 17 with persistent AR), mast cells in 21 patients (10 with intermittent and 11 with persistent AR), and lymphocytes/plasma cells in 26 patients (14 with intermittent and 12 with persistent AR). There were significantly more mast cells ( $p=0.014$ ) and lymphocytes/plasma cells ( $p=0.024$ ) in patients with moderate/severe AR than in patients with mild AR as shown in Fig. 2.

Figure 2. Nasal cytology according to disease severity



## Conclusions

These findings first demonstrate that the ARIA classification of AR severity is associated with different cell counts in nasal cytology, and particularly with significantly higher counts for mast cells and lymphocyte/plasma cells in moderate/severe AR.