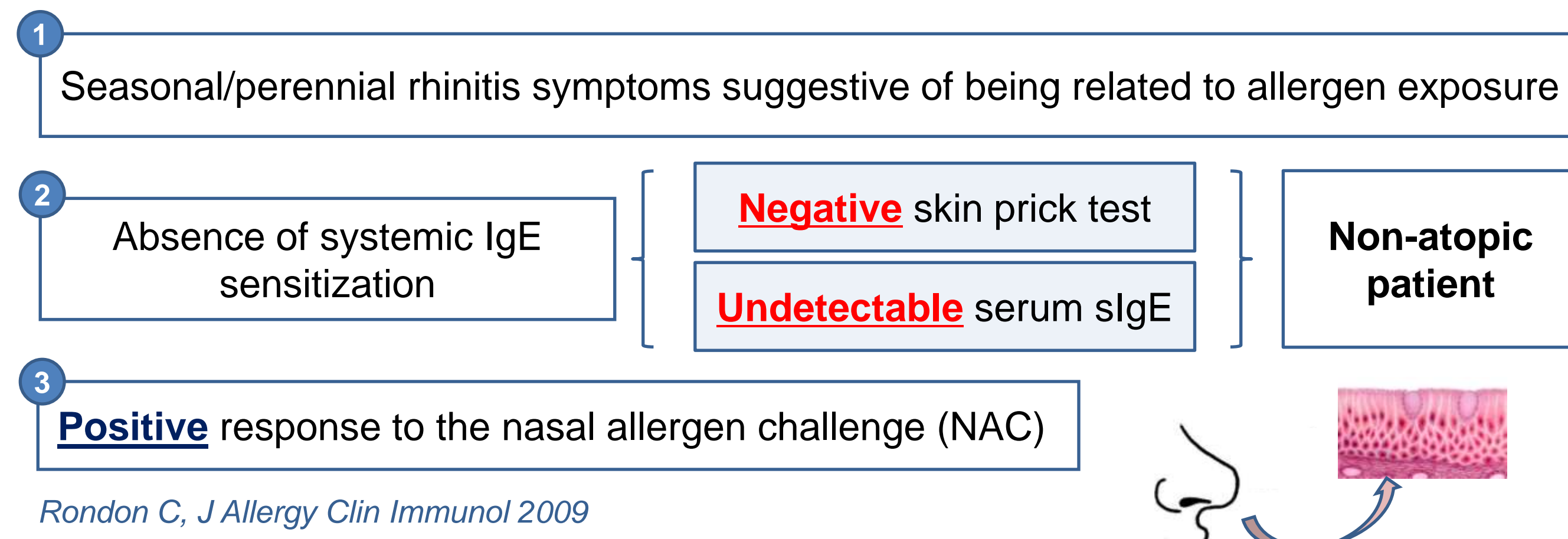


# Background

## Local Allergic Rhinitis (LAR): Clinical phenotype



Rondon C, J Allergy Clin Immunol 2009

## Pathophysiology?

Increase in tryptase, nasal sIgE and eosinophil cationic protein in nasal fluid of LAR patients after NAC

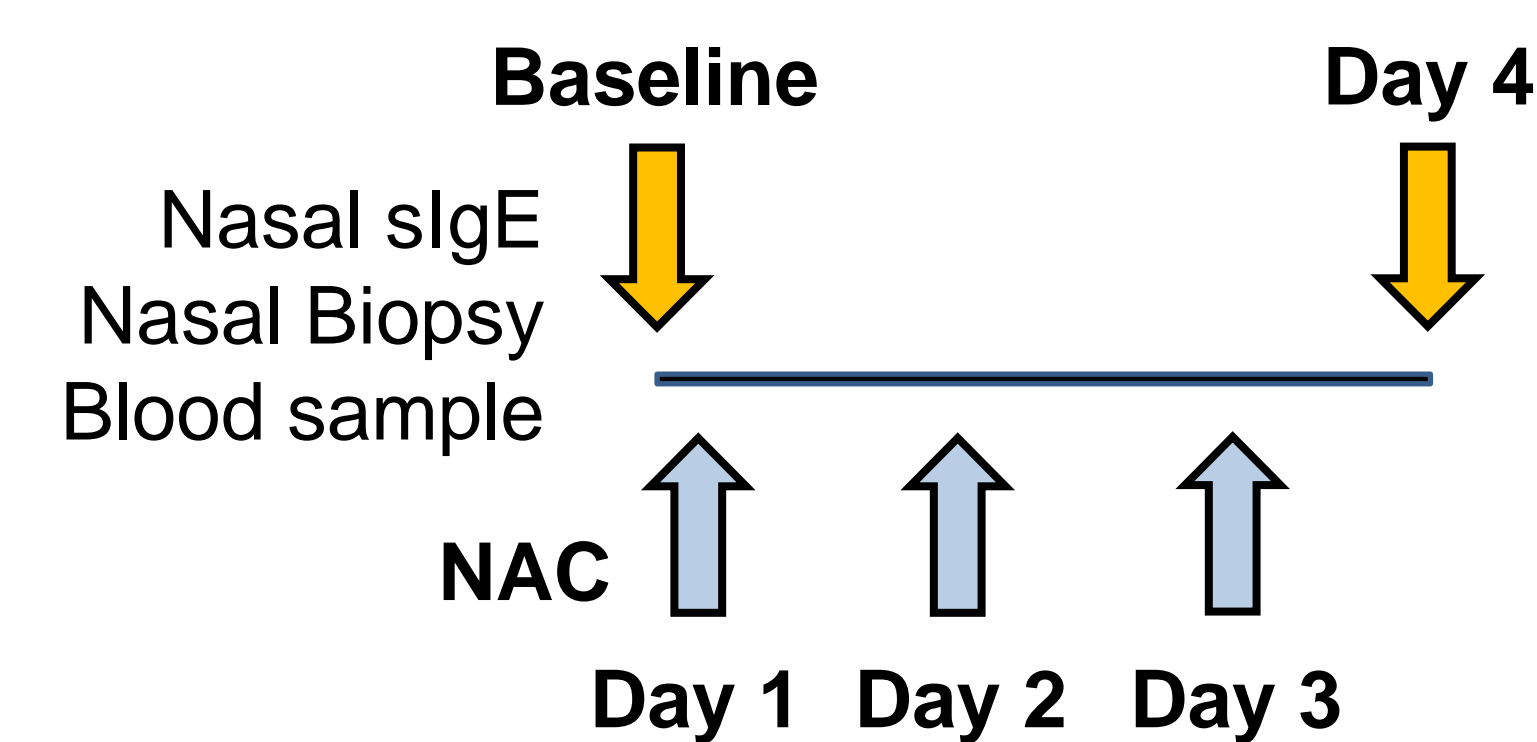
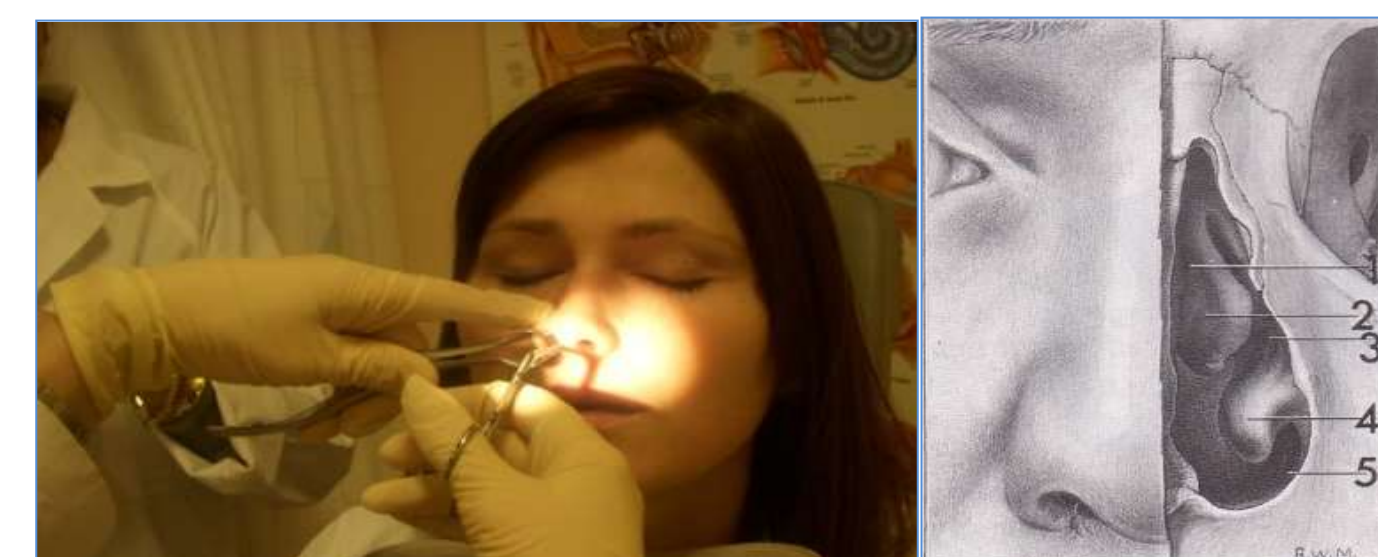
## Role of mucosal IgE?

## Aim of study

To investigate the involvement of IgE immune responses in the pathophysiology of local allergic rhinitis at both mucosal and peripheral levels

## Materials & Methods

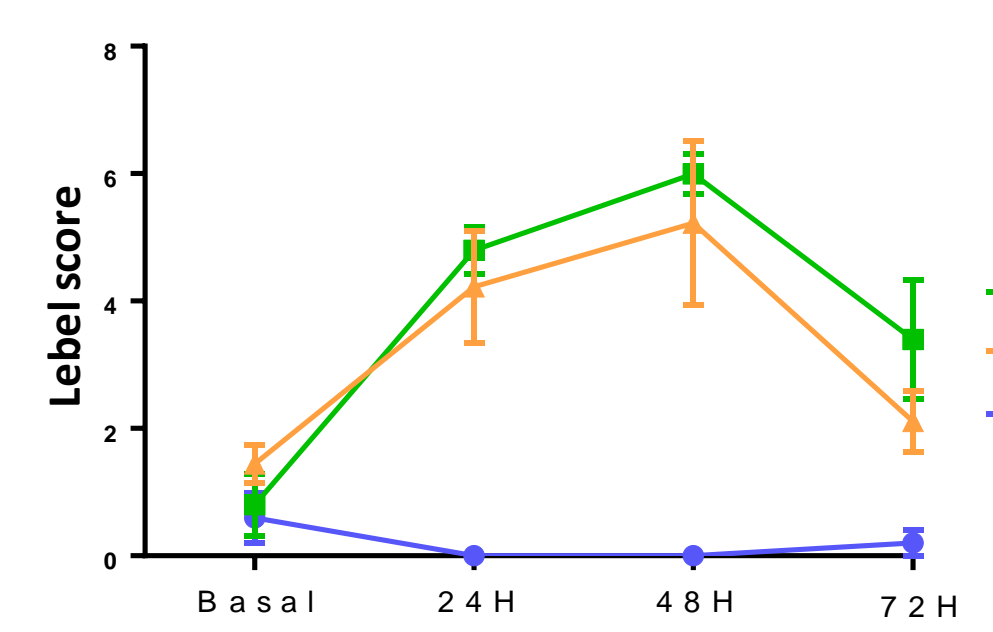
### In vivo provocation cohorts



Jahnsen, J Immunol 2000  
Melum, JACI 2014  
Equiluz-Gracia, JACI 2016  
Campo, Int Forum Allergy Rhinol 2018

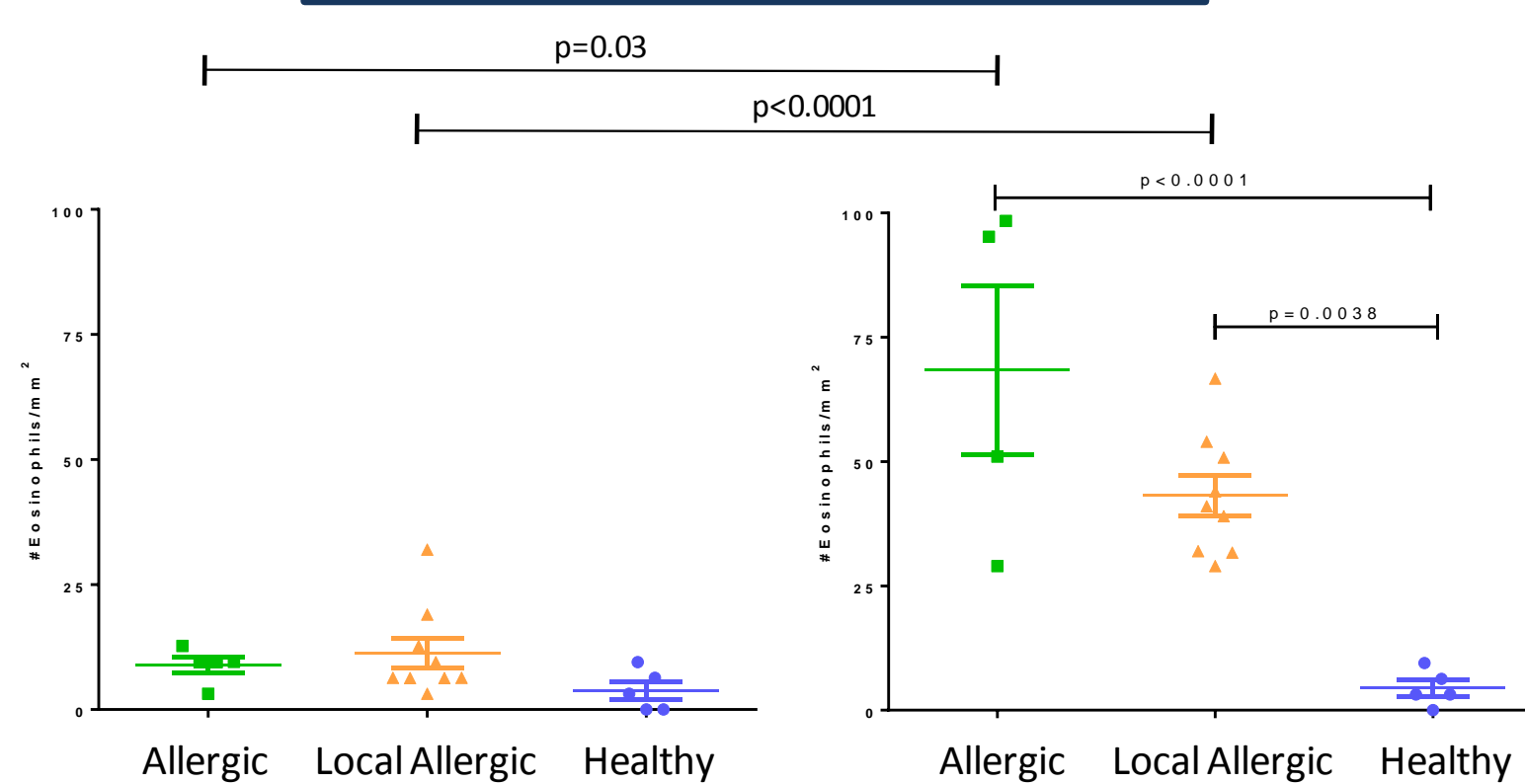
- ✓ 9 house dust mite (HDM)-LAR patients
- ✓ 5 HDM-allergic rhinitis (AR) patients
- ✓ 5 healthy non-atopic controls (HC)

### Symptoms



✓ Our in vivo experimental model mimics naturally occurring allergic rhinitis

### Mucosal Eosinophils



# P505

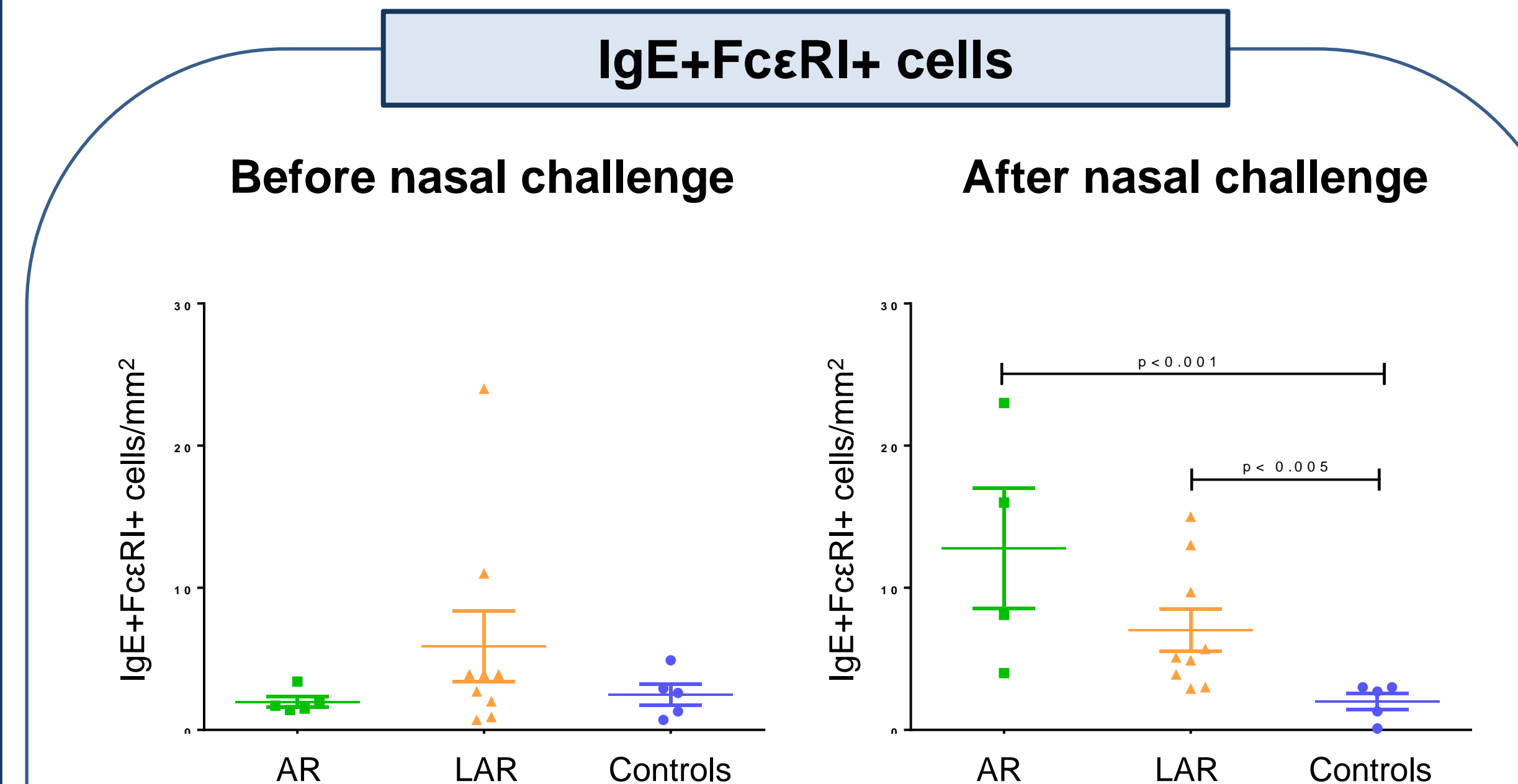
## Allergen-induced mucosal production of IgE in local allergic rhinitis patients

Equiluz-Gracia I<sup>1</sup>, Ariza A<sup>2</sup>, Cornejo JA<sup>2</sup>, Escamilla A<sup>3</sup>, Campo P<sup>1</sup>, Torres MJ<sup>1</sup>, Mayorga C<sup>2</sup>, Rondon C<sup>1</sup>.

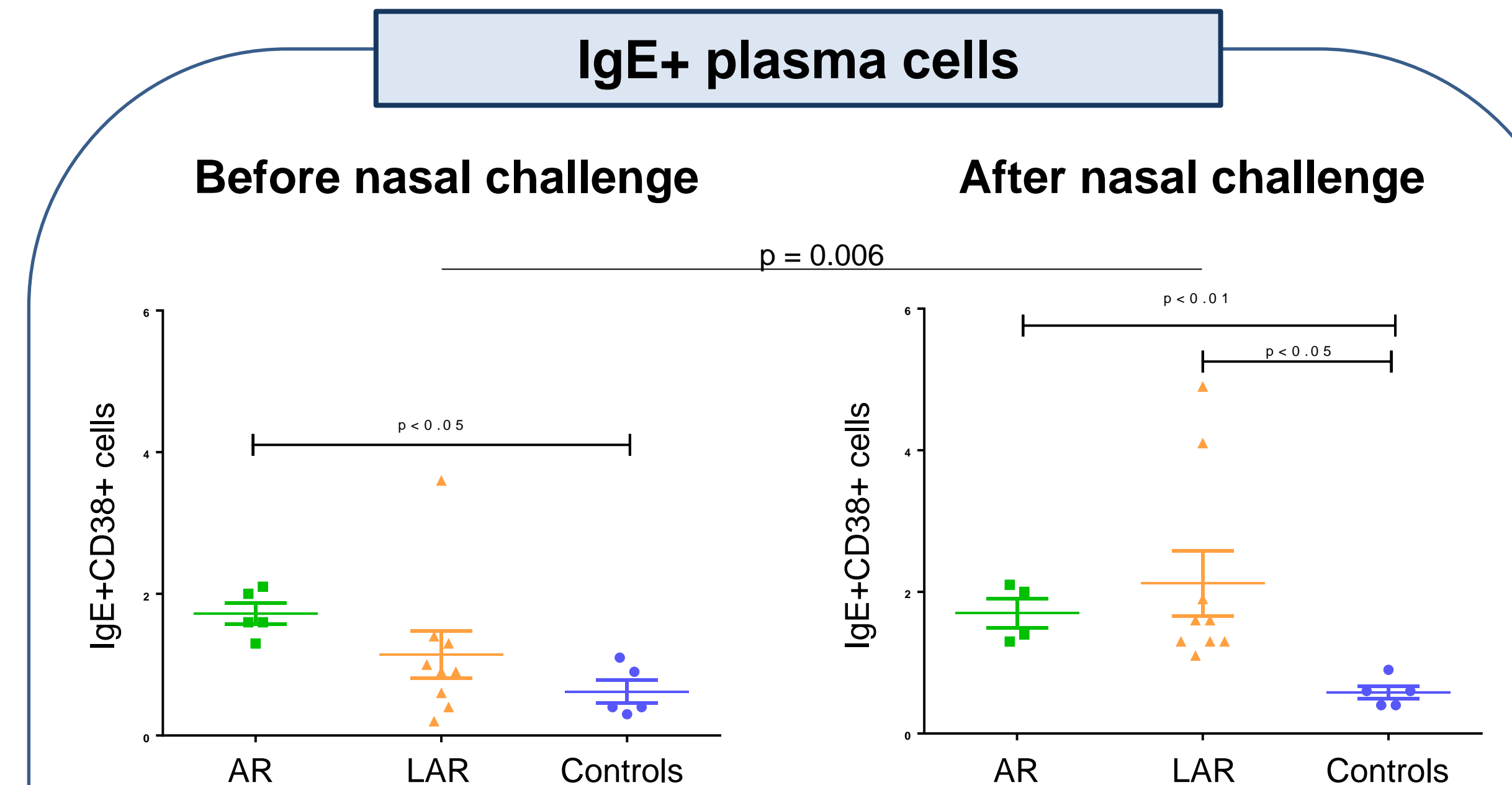
(1) Allergy Department. IBIMA-Hospital Regional Universitario de Málaga-ARADyAL. Málaga, Spain. (2) Research Laboratory, Allergy Department. IBIMA-Hospital Regional Universitario de Málaga-ARADyAL. Málaga, Spain; (3) Estructura Común de Apoyo a la Investigación (ECAI)-Microscopía, IBIMA. Malaga, Spain.

## Results

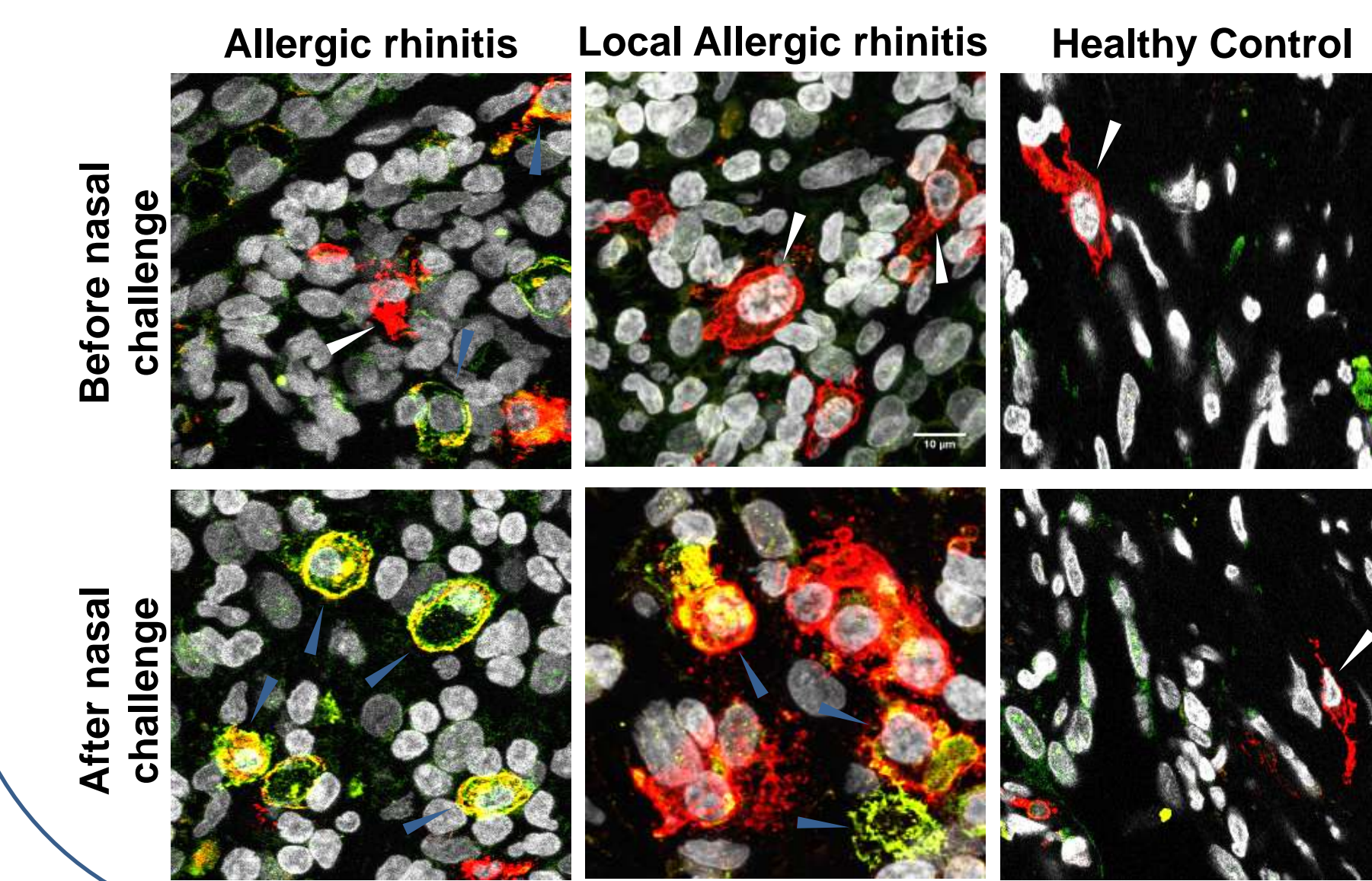
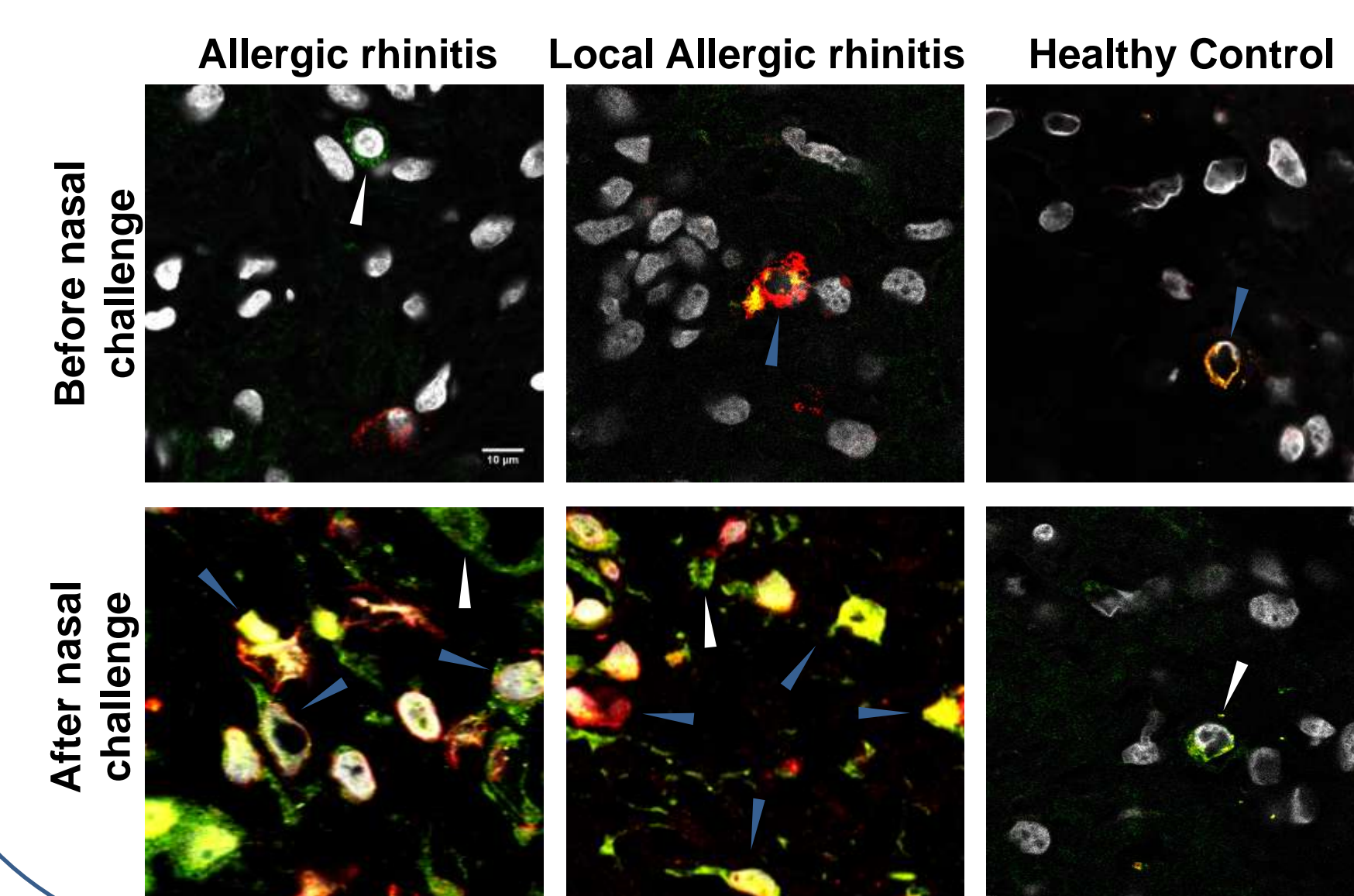
### 1 | Mucosal level



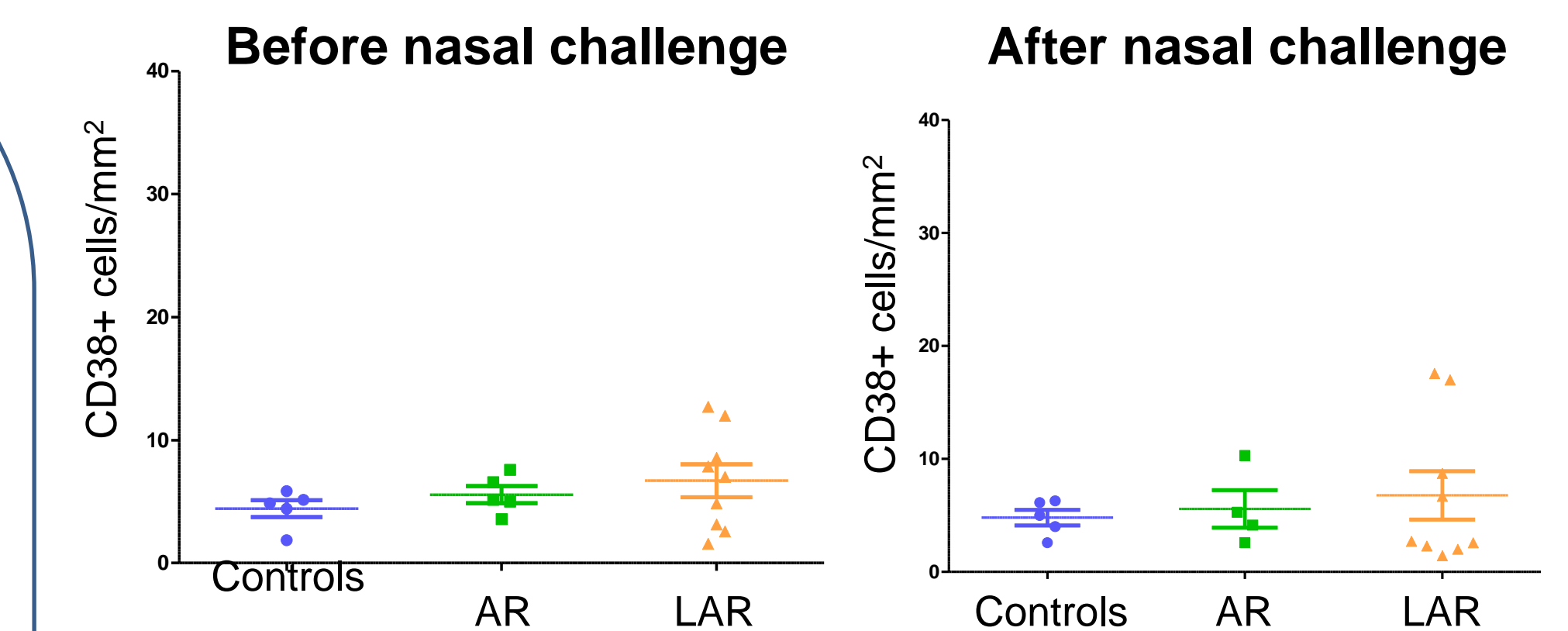
✓ IgE+FcεRI+ cells are increased in the nasal mucosa of allergic rhinitis and local allergic rhinitis patients after the nasal allergen challenge



✓ IgE-producing plasma cells are increased in the nasal mucosa of local allergic rhinitis patients after the nasal allergen challenge

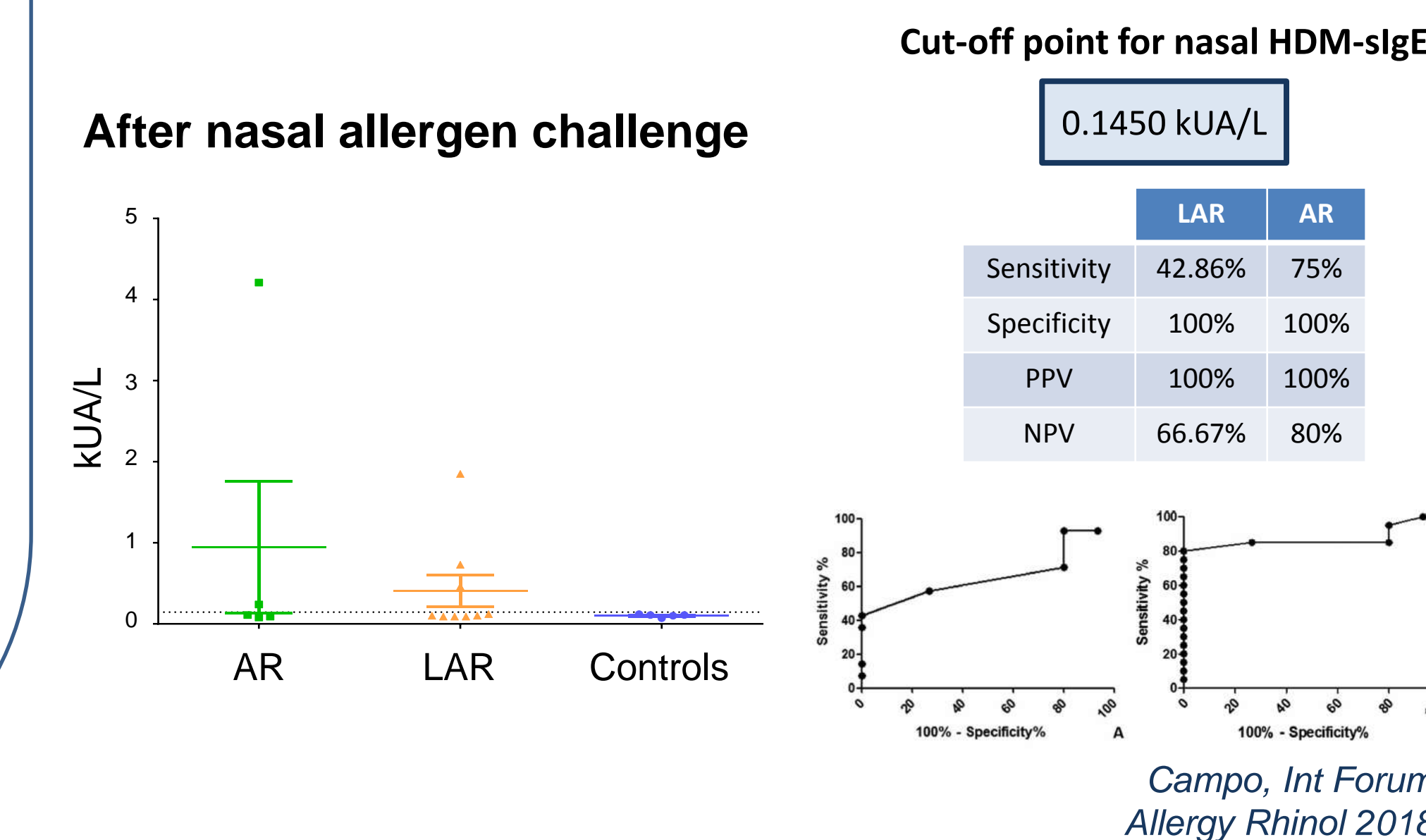


### Total plasma cells



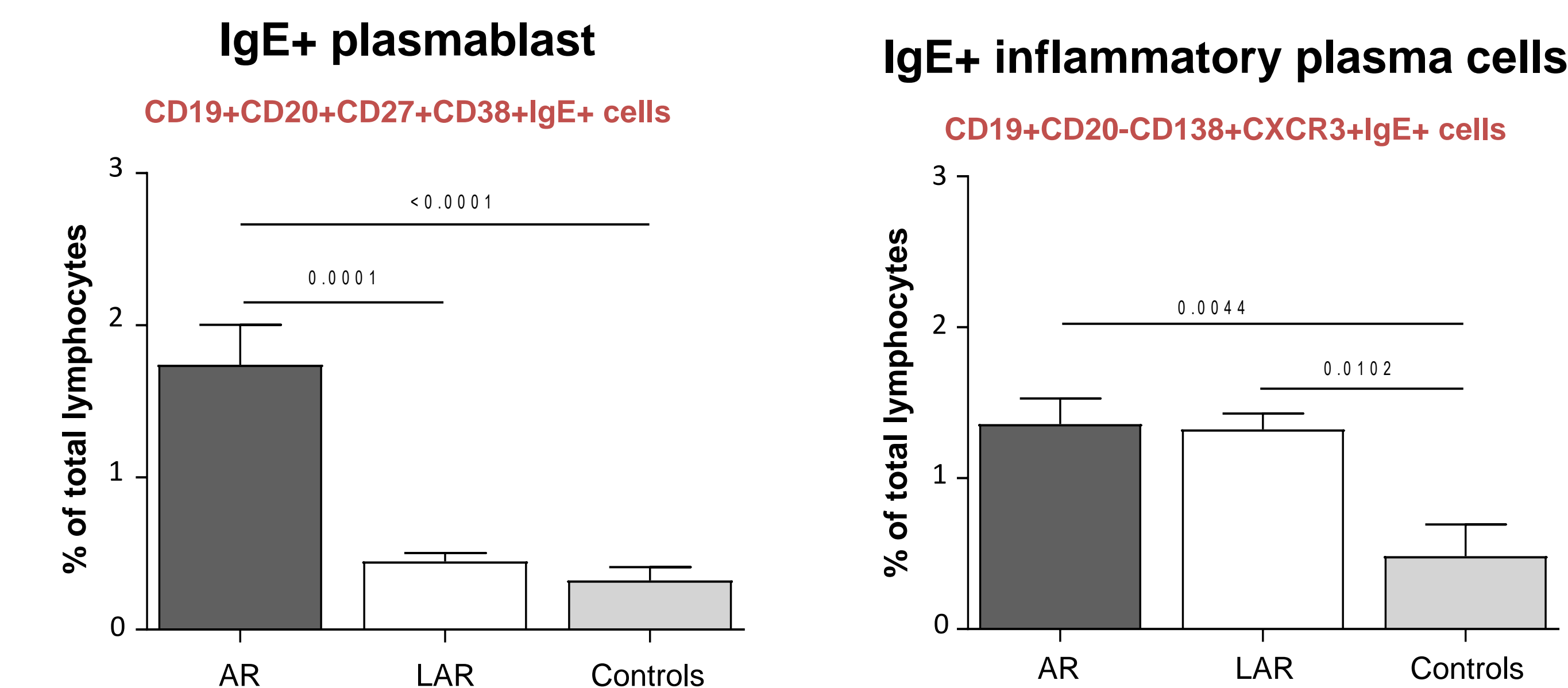
✓ The nasal allergen challenge does not induce significant changes in the number of plasma cells in allergic rhinitis and local allergic rhinitis patients

### Nasal HDM-sIgE in patients with allergic rhinitis and local allergic rhinitis

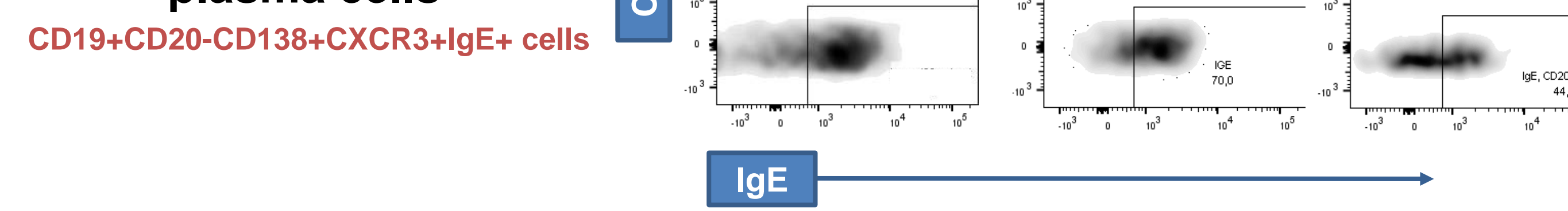


### 2 | Peripheral level

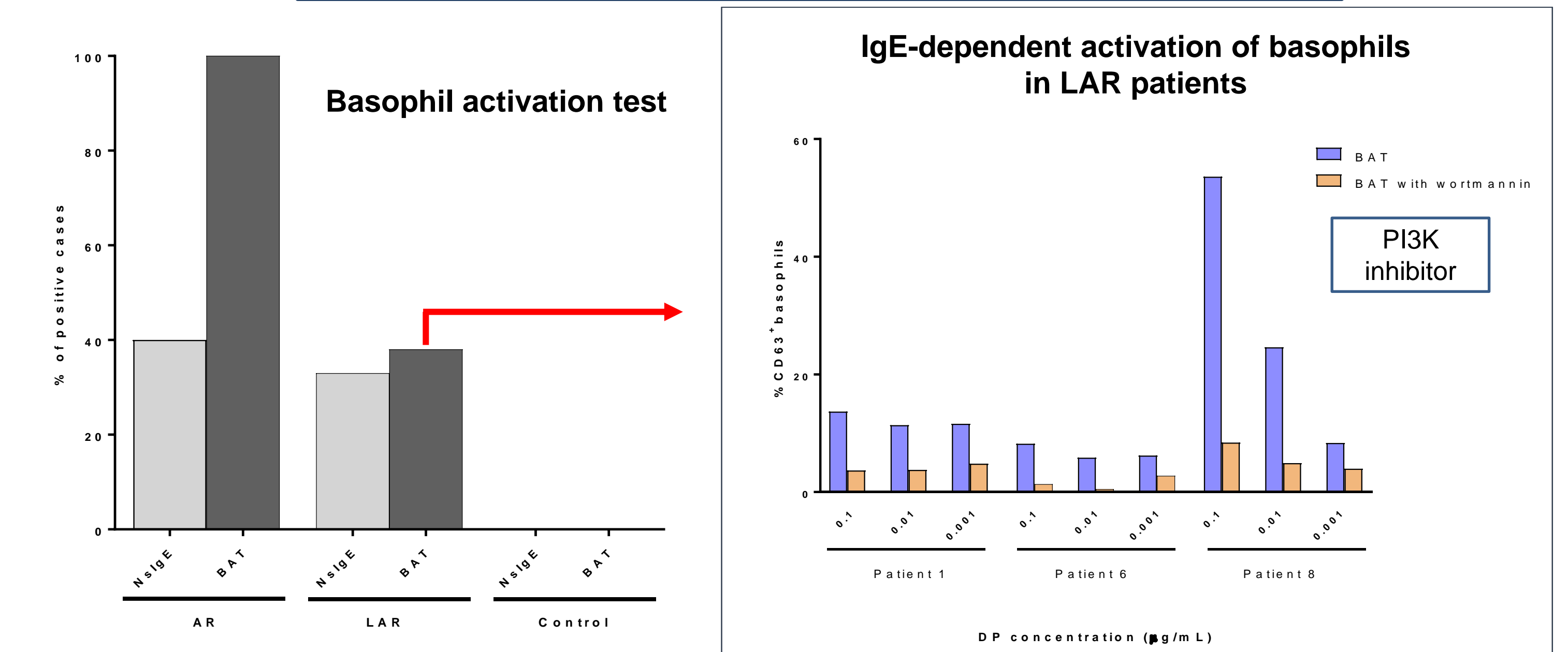
#### Peripheral IgE-producing plasma cell lineage after nasal allergen challenge



#### IgE+ inflammatory plasma cells



#### IgE-dependent activation of peripheral basophils in patients with local allergic rhinitis



Campo, CEA 2015  
Gomez, JACI 2013  
Duarte-Ferreira, JIACI 2019

## Conclusions

- 1 Our results indicate that IgE is produced in the nasal mucosa of LAR and AR patients
- 2 A proportion of the IgE in LAR patients might be HDM-specific, as suggested by the nasal sIgE/BAT results and the NAC-induced increase of IgE+ plasma cells
- 3 The distinct proportion of peripheral IgE+ plasmablast might reflect differential maturation process of IgE+plasma cells between AR and LAR patients

#### Funding information

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