Table 1 Prediction of house dust mite (HDM) allergy and serum IgE responses by testing IgE in nasal secretions in 30 HDM allergic patients and 29 healthy controls

	Sensitivity		Specificity		PPV		NPV		Accuracy	LR+	LR−
	%	(95% CI)†	%	(95% CI)†	%	(95% CI)†	%	(95% CI)†	%		
Filter disk											
ANY major molecules°	90	(73–98)	100	(83–100)	100	(82–100)	91	(75–98)	95	∞	0.1
nDer p 1	46	(26–66)	100	(85–100)	100	(62–100)	73	(58–85)	78	∞	0.5
nDer f 1	68	(46–85)	100	(85–100)	100	(73–100)	81	(66–91)	86	∞	0.3
rDer p 2	90	(73–98)	100	(83–100)	100	(81–100)	91	(76–98)	95	∞	0.1
rDer f 2	90	(73–98)	100	(83–100)	100	(81–100)	91	(76–98)	95	∞	0.1
rDer p 23	81	(61–93)	100	(85–100)	100	(77–100)	87	(72–96)	92	∞	0.2
OTHER molecules											
rDer p 4	0	(0–53)	98	(90–100)	0	(0–99)	88	(77–95)	86	0.0	1.0
rDer p 5	80	(44–97)	100	(89–100)	100	(52–100)	96	(87–100)	97	∞	0.2
rDer p 7	78	(40–97)	100	(90–100)	100	(47–100)	96	(87–100)	97	∞	0.2
rDer p 21	57	(18–90)	100	(90–100)	100	(28–100)	95	(85–99)	95	∞	0.4
ALL molecules¥	71	(63–77)	100	(99–100)	98	(93–100)	93	(91–95)	94	167.4	0.3
Sinus Pack											
ANY major molecules°	87	(69–96)	100	(83–100)	100	(81–100)	88	(72–97)	93	∞	0.1
nDer p 1	58	(37–78)	100	(85–100)	100	(68–100)	78	(63–89)	83	∞	0.4
nDer f 1	48	(28–69)	100	(85–100)	100	(64–100)	72	(57–84)	78	∞	0.5
rDer p 2	86	(68–96)	100	(83–100)	100	(80–100)	88	(73–97)	93	∞	0.1
rDer f 2	86	(68–96)	100	(83–100)	100	(80–100)	88	(73–97)	93	∞	0.1
rDer p 23	81	(61–93)	100	(85–100)	100	(77–100)	87	(72–96)	92	∞	0.2
OTHER molecules											
rDer p 4	14	(0–58)	98	(90–100)	50	(1–99)	89	(78–96)	88	7.4	0.9
rDer p 5	70	(35–93)	90	(78–97)	58	(28–85)	94	(82–99)	86	6.9	0.3
rDer p 7	67	(30–93)	100	(90–100)	100	(42–100)	94	(84–99)	95	∞	0.3
rDer p 21	57	(18–90)	100	(90–100)	100	(28–100)	95	(85–99)	95	∞	0.4
ALL molecules¥	68	(60–75)	99	(98–100)	95	(90–98)	93	(91–94)	94	80.3	0.3

† Exact binomial confidence limits (95% CI) for test sensitivity, specificity, PPV (positive predictive value); NPV (negative predictive value), LR + (positive likelihood ratio), LR- (negative likelihood ratio)

° Outcomes referred to at least one of the major allergen molecules (nDer p 1, nDer f 1, rDer p 2, rDer f 2, rDer p 23)

¥ Including outcomes of rDer p 10, rDer p 11, rDer p 14, rDer p 15, Clone 16, rDer p 18, all characterized by a low positive sample size (n < 5)

Keywords: Allergen Molecules, Allergic Rhinitis, House Dust Mite Allergy, Immunoglobulin E, Nasal Secretions

P03

Correlation between rhinomanometry and spirometry parameters in 971 adults

Ivânia Gonçalves[1], Tiago Jacinto[2], Rita Amaral[3], Ana M. Pereira[3], Luís M. Araújo[4], Mariana Couto[1], João A. Fonseca[5]
[1]CUF Porto - Instituto & Hospital, Porto, Portugal; [2]CUF Porto - Instituto & Hospital; CINTESIS - Center for Health Technology and Services Research; ESS - IPP - School of Health; Polytechnic of Porto, Porto, Portugal; [3]CUF Porto - Instituto & Hospital; CINTESIS - Center for Health Technology and Services Research, Porto, Portugal; [4]CUF Porto - Instituto & Hospital; Allergy Unit, FMUP - Faculty of Medicine, University of Porto, Porto, Portugal; [5]CUF Porto - Instituto & Hospital; CINTESIS - Center for Health Technology and Services Research; MEDCIDES - Department of Health Information and Decision Sciences, Faculty of Medicine, University of Porto, Porto, Portugal
Correspondence: Ivânia Gonçalves - ivania.m.g@gmail.com
Clinical and Translational Allergy 2017, **7(Suppl 3)**:P03

Introduction: There is a lack of published studies about the association between rhinomanometry and spirometry results. Some studies have shown a moderate correlation between spirometry parameters and other nasal objective measures such as Peak Nasal Inspiratory Flow (PNIF). We aimed to study the correlation between rhinomanometry and spirometry parameters.
Methods: We included all adults (age ≥ 18 years) who performed rhinomanometry and spirometry consecutively on the same day, at CUF Porto - Instituto and Hospital from November 2010 to July 2016. When more than one rhinomanometry was performed, only the first one was included in the analysis. We included gender, age, height, rhinomanometry parameters (inspiratory and expiratory total nasal airflow, inspiratory (*RAARi*) and expiratory (*RAARe*) mean airflow resistance at a sample pressure of 150 Pa and side ratio) and spirometric parameters (forced vital capacity (FVC), forced expiratory volume in 1 s (FEV_1), mid-flow rate/forced expiratory flow at 25–75% of FVC (FEF25-75) and FEV_1/FVC). Pearson's correlation was used to evaluate unadjusted correlations and partial correlations were used to adjust parameters for age, gender and height.
Results: A total of 971 adults were included, 623 (64%) females, with a mean (sd) height of 166.0 (9.0) cm and age of 38.3 (14.1) years

(min–max: 18–80). Correlations between spirometry and rhinomanometry variables are presented in Table 1. The correlations between FEV_1/FVC and either inspiratory total nasal airflow or mean RAARi, were the only ones with statistical significance ($r = -0.083$, $p = 0.016$ and $r = 0.011$, $p = 0.039$, respectively). After adjusting for age, gender and height, no statistically significant associations were found between the parameters.

Table 1 Results

	FVC (%)	*p*	FEV1 (%)	*p*	FEV1/ FVC (%)	*p*	MEF25-75 (%)	*p*
Insp total nasal airflow (ml/s)	−0.027	0.575	0.017	0.615	**−0.083**	**0.016**	−0.008	0.808
Exp total nasal airflow (ml/s)	0.032	0.359	0.052	0.131	−0.055	0.116	0.047	0.173
Mean RAARi (kPa*s/L)	0.092	0.880	−0.027	0.424	**0.011**	**0.039**	−0.047	0.160
Mean RAARe (kPa*s/L)	−0.006	0.862	−0.044	0.186	−0.012	0.731	−0.057	0.087
Side ratio	−0.032	0.341	−0.046	0.165	−0.023	0.495	−0.023	0.487

Bold formatting equals the values with statistical significance

Conclusions: Rhinomanometry and spirometry parameters were not significantly correlated after adjustment to confounders, which suggests that rhinomanometry measurements are not influenced by respiratory capacity measured with spirometry, contrary to PNIF. This may be advantageous, especially in patients with low respiratory functional capacity.

Keywords: Rhinomanometry, Spirometry

P04

Profile of patients with persistent allergic rhinitis prescribed MP-AzeFlu®* In routine clinical practice: pooled data from Austria, Ireland and Sweden

Par Stjarne[1], Ranbir Kaulsay[2], Wolfgang Pohl[3]
[1]Karolinska Institute, Stockholm, Sweden; [2]Clontarf Clinic, Dublin, Ireland; [3]Karl Landsteiner Institut fur Experimentelle und Klinische Pneumologie, Vienna, Austria
Correspondence: Par Stjarne - par.stjarne@karolinska.se
Clinical and Translational Allergy 2017, **7(Suppl 3)**:P04

Introduction: The aims of this study were (i) to characterise patients with persistent allergic rhinitis (PER) prescribed Meda Pharma's AzeFlu (MP-AzeFlu; a novel formulation of azelastine hydrochloride, fluticasone propionate and excipients in a single spray) in real-life in Austria, Ireland and Sweden and (ii) to quantify the personal symptomatic burden of PER in these countries prior to MP-AzeFlu prescription.
Methods: 428 patients (≥12 years old) with moderate-to-severe PER were recruited into 3, prospective, non-interventional studies carried out in Austria (n = 214), Ireland (n = 53) and Sweden (n = 161). MP-AzeFlu was prescribed according to label. Information was gathered on patient demographics, AR phenotype, allergen sensitization, symptomatology, previous AR treatments in the last year (prior to MP-AzeFlu prescription) and reason for MP-AzeFlu prescription. Data for all countries are pooled.
Results: Classified traditionally, slightly more patients had both seasonal AR (SAR) and perennial AR (PAR) (n = 254; 59.3%) vs. PAR alone (n = 174; 40.7%). Sensitization to house dust mite predominated (n = 261; 61.0%), followed by animal dander, and at least 50.5% (n = 216) were poly-sensitized. Prior to MP-AzeFlu prescription patients reported troublesome symptoms (n = 268; 62.6%), impairment of daily activities (n = 238; 55.6%), sleep disturbance (n = 235; 54.9) and impairment of school/work (n = 177; 41.4%). Congestion was considered the most bothersome symptom by most patients (n = 254; 59.3%). The most frequent reason for MP-AzeFlu prescription was that other therapies were not sufficient in the past (n = 299; 69.9%) or not sufficient to treat acute symptoms (n = 87; 20.3%). Most of these PER patients were previously treated with oral antihistamines (n = 274; 64.0%), intranasal corticosteroids (n = 236; 55.1%) or intranasal anti-histamines (n = 97; 22.7%). 59.3% (n = 254) of patients reported using ≥2 AR therapies in the past year, but 9.6% (n = 41) reported using no AR therapy at all.
Conclusions: Many patients in Europe live with uncontrolled persistent disease despite treatment with mono- and multiple therapies. A more effective treatment option, like MP-AzeFlu, should improve AR control and reduce the number of patients requiring immunotherapy.
Keywords: MP-AzeFlu, Dymista, Azelastine, Fluticasone Propionate

*MP-AzeFlu, a registered trademark of Meda AB, is marketed in the U.S. as Dymista®, a registered trademark of Meda Pharma Inc., both Mylan Companies.

P05

Measurement of nasal specific IgE in patients with local allergic rhinitis

Paloma Campo[1], Ibon Eguiluz[2], Carmen Rondon[3], Maria Carmen Plaza[4], Ana Maria Prieto[5], Luisa Galindo[1], Cristobalina Mayorga[2], Miguel Blanca[4], Maria Jose Torres[5]
[1]Allergy Unit, Malaga, Spain; [2]IBIMA, Malaga, Spain; [3]Research Laboratory, Malaga, Spain; [4]Regional University Hospital of Malaga, Malaga, Spain; [5]UMA, Malaga, Spain
Correspondence: Ibon Eguiluz - iboneguiluz@gmail.com
Clinical and Translational Allergy 2017, **7(Suppl 3)**:P05

Introduction: Prior methods used for measuring nasal specific IgE (NsIgE) in local allergic rhinitis (LAR) have shown a variable sensitivity: 22% for *D. Pteronyssinus* (DP) using the Greiff/Grünberg method and lower with Naclerio method. In this study a novel method of detection of NsIgE in patients with confirmed LAR to DP was evaluated.
Methods: Sixteen LAR (positive nasal allergen provocation test to DP (NAPT-DP), negative skin testing/sIgE to DP), 10 allergic rhinitis (AR) as positive control (positive NAPT-DP and skin testing/sIgE to DP), and 12 healthy controls as negative control (negative NAPT-DP and skin testing/sIgE to DP) were recruited. DP-ImmunoCAP® solid phase was applied directly in the lower turbinate of each nostril for 10 min before and 24 h after NAPT-DP and analyzed following the manufacturer´s instructions. ROC curves were performed to obtain the optimal cut-off point of nasal sIgE value to calculate sensitivity (S) and specificity (SP), and outcomes were compared with NAPT-DP result (gold standard test). Study was approved by local ethics committee.
Results: All LAR and AR subjects had a positive response to NAPT-DP, and none in the healthy control group. At 24 h after NAPT-DP, mean NsIgE values were 0.119 kU/L in LAR, 1.600 kU/L in AR and 0.115 kU/L in healthy controls. ROC curves using NsIgE values obtained 24 h after NAPT-DP were performed. In LAR subjects, the area under the curve (AUC) was 0.7277, $p = 0.0054$. The optimal cut-off point to discriminate LAR subjects from controls was 0.135 kU/L, obtaining a S = 20.31% and SP = 88.09%. In AR (positive control group) the AUC was 0.9798, $p \leq 0.0001$, and the optimal cut-off point was 0.170 kU/L with S = 95% and SP = 100%.
Conclusions: Measurement of NsIgE by direct application of DP-ImmunoCAP® in LAR shows similar sensitivity to other methods and good specificity, with the advantage of being non-invasive, easier to perform and faster. Funded by Institute of Health "Carlos III" (Ministry of Economy and Competitiveness) RETICS ARADyAL (RD16/0006/0001), FIS PI14/00864 and Consejería de Salud PI-0346-2016.
Keywords: IgE, Local Allergic Rhinitis, Nasal