

## MATERIAL SUPPLEMENTARY

**Supplementary Table S1:** Comparison of all parameters in patients with positive versus negative BDR.

Baseline characteristics (N=793)				
Item		Bronchospasmolyse		
		positive	negative	Total
sex	N	250	543	793
	male	121 (48.4%)	240 (44.2%)	361 (45.5%)
	female	129 (51.6%)	303 (55.8%)	432 (54.5%)
Age [years]	N	250	543	793
	Minimum	7	5	5
	Maximum	81	87	87
	Median	52.5	53.0	53.0
	Mean	49.6	50.0	49.9
	Standard dev.	15.6	16.5	16.3
Age group	N	250	543	793
	Children	15 (6.0%)	34 (6.3%)	49 (6.2%)
	Adults	235 (94.0%)	509 (93.7%)	744 (93.8%)
Body height [cm]	N	249	540	789
	Minimum	133	106	106
	Maximum	202	200	202
	Median	170.0	168.5	169.0
	Mean	170.5	169.3	169.7
	Standard dev.	10.1	10.8	10.6
Body weight [kg]	N	249	540	789
	Minimum	27.0	17.0	17.0
	Maximum	160.0	155.0	160.0
	Median	77.0	78.0	77.0
	Mean	79.5	79.2	79.3
	Standard dev.	20.1	20.7	20.5
BMI [kg/m <sup>2</sup> ]	N	249	540	789
	Minimum	14.9	12.9	12.9
	Maximum	58.8	53.6	58.8
	Median	26.1	26.3	26.2
	Mean	27.2	27.5	27.4
	Standard dev.	6.2	6.4	6.3
Duration of asthma bronchiale (years)	N	194	434	628
	Minimum	0	0	0
	Maximum	72	80	80
	Median	18.0	18.0	18.0
	Mean	19.1	21.0	20.4
	Standard dev.	15.1	16.0	15.7
Age at asthma diagnosis [years]	N	194	434	628
	Minimum	0	0	0
	Maximum	69	84	84
	Median	32.5	30.0	31.0
	Mean	31.1	30.2	30.5
	Standard dev.	17.5	19.9	19.2
Age at asthma diagnosis	N	250	540	790
	before 12 years	62 (24.8%)	162 (30.0%)	224 (28.4%)
	after 12 years	188 (75.2%)	378 (70.0%)	566 (71.6%)
ICD10	N	250	543	793
	predominantly allergic asthma	104 (41.6%)	232 (42.7%)	336 (42.4%)
	non-allergic asthma	80 (32.0%)	169 (31.1%)	249 (31.4%)
	mixed forms of asthma	66 (26.4%)	142 (26.2%)	208 (26.2%)
	N	250	543	793

Item	Statistic	p value
Sex	Chi-Square	p=0.2697
Age [years]	U-Test	p=0.6433
Age group	Chi-Square	p=0.8870
Body height [cm]	U-Test	p=0.1879
Body weight [kg]	U-Test	p=0.8296
BMI [kg/m <sup>2</sup> ]	U-Test	p=0.6813
Age at asthma diagnosis [years]	U-Test	p=0.5206
Age at asthma diagnosis	Chi-Square	p=0.1315
ICD10	Chi-Square	p=0.9526
Current reason for introduction	Chi-Square	p=0.0173
Smoking habits	Chi-Square	p=0.8179
Incapacity for work	Chi-Square	p=0.6151
Pensions	Chi-Square	p=0.4892

Current reason for introduction	first appointment	141 (56.4%)	276 (50.8%)	417 (52.6%)
	follow-up	105 (42.0%)	260 (47.9%)	365 (46.0%)
	Outpatient unplanned due to deterioration	1 (0.4%)	7 (1.3%)	8 (1.0%)
	Inpatient unplanned due to severe exacerbation	3 (1.2%)	-	3 (0.4%)
Smoking habits	N	250	542	792
	non-smoker	143 (57.2%)	304 (56.1%)	447 (56.4%)
	smoker	7 (2.8%)	12 (2.2%)	19 (2.4%)
	former smoker	100 (40.0%)	226 (41.7%)	326 (41.2%)
Former smoker: packyears	N	96	226	322
	Minimum	0.05	0.05	0.05
	Maximum	75.00	80.00	80.00
	Median	9.00	10.00	10.00
	Mean	13.43	13.52	13.50
	Standard dev.	13.62	13.52	13.53
Smoker: packyears	N	7	11	18
	Minimum	0.10	0.15	0.10
	Maximum	30.00	56.25	56.25
	Median	6.50	12.00	7.35
	Mean	9.93	15.05	13.06
	Standard dev.	9.91	16.29	14.04
Incapacity for work	N	250	542	792
	no	131 (52.4%)	306 (56.5%)	437 (55.2%)
	yes	82 (32.8%)	153 (28.2%)	235 (29.7%)
	unknown	16 (6.4%)	34 (6.3%)	50 (6.3%)
	not applicable	21 (8.4%)	49 (9.0%)	70 (8.8%)
Pensions	N	250	542	792
	no	201 (80.4%)	427 (78.8%)	628 (79.3%)
	yes	31 (12.4%)	59 (10.9%)	90 (11.4%)
	unknown	2 (0.8%)	9 (1.7%)	11 (1.4%)
	not applicable	16 (6.4%)	47 (8.7%)	63 (8.0%)

Asthma symptoms (N=793)				
Item		Bronchospasmolyse		
		positive	negative	Total
Exertional dyspnea	N	250	541	791
	no	40 (16.0%)	97 (17.9%)	137 (17.3%)
	yes	210 (84.0%)	444 (82.1%)	654 (82.7%)
Resting dyspnea	N	250	542	792
	no	183 (73.2%)	453 (83.6%)	636 (80.3%)
	yes	67 (26.8%)	89 (16.4%)	156 (19.7%)
Chest tightness / chest pain	N	250	542	792
	no	159 (63.6%)	400 (73.8%)	559 (70.6%)
	yes	91 (36.4%)	142 (26.2%)	233 (29.4%)
Coughing	N	250	542	792
	no	101 (40.4%)	216 (39.9%)	317 (40.0%)
	yes	149 (59.6%)	326 (60.1%)	475 (60.0%)
Coughing: type	N	149	326	475
	productiv	79 (53.0%)	180 (55.2%)	259 (54.5%)
	dry	70 (47.0%)	146 (44.8%)	216 (45.5%)
Rhonchus or humming	N	250	542	792
	no	128 (51.2%)	295 (54.4%)	423 (53.4%)
	yes	122 (48.8%)	247 (45.6%)	369 (46.6%)
Prolonged expirium	N	250	542	792
	no	221 (88.4%)	482 (88.9%)	703 (88.8%)
	yes	29 (11.6%)	60 (11.1%)	89 (11.2%)
Reduced exercise capacity	N	250	542	792
	no	55 (22.0%)	134 (24.7%)	189 (23.9%)
	yes	195 (78.0%)	408 (75.3%)	603 (76.1%)
No symptoms	N	250	542	792
	no	238 (95.2%)	511 (94.3%)	749 (94.6%)
	yes	12 (4.8%)	31 (5.7%)	43 (5.4%)
Symptoms during the day	N	250	541	791
	never	9 (3.6%)	16 (3.0%)	25 (3.2%)
	<=2x/week	38 (15.2%)	92 (17.0%)	130 (16.4%)
	>2x/week, but <1x/day	56 (22.4%)	131 (24.2%)	187 (23.6%)
	>=1x/day	136 (54.4%)	278 (51.4%)	414 (52.3%)
	unknown	11 (4.4%)	24 (4.4%)	35 (4.4%)
Symptoms during the night	N	250	540	790
	never	40 (16.0%)	127 (23.5%)	167 (21.1%)

Item	Statistic	p value
Exertional dyspnea	Chi-Square	p=0.5049
Resting dyspnea	Chi-Square	p=0.0006
Chest tightness / chest pain	Chi-Square	p=0.0034
Coughing	Chi-Square	p=0.8838
Coughing: type	Chi-Square	p=0.6558
Rhonchus or humming	Chi-Square	p=0.3973
Prolonged expirium	Chi-Square	p=0.8263
Reduced exercise capacity	Chi-Square	p=0.4033
No symptoms	Chi-Square	p=0.5956
Symptoms during the day	Chi-Square	p=0.8946
Symptoms during the night	Chi-Square	p=0.1518
Exacerbations in the last 12 months	Chi-Square	p=0.3432
Emergency medical treatment in the last 12 months	Chi-Square	p=0.6804
Inpatient stay in the last 12 months	Chi-Square	p=0.7307
Inpatient stay - intensive care in the last 12 months	Chi-Square	p=0.7698
Inpatient stay - intubated in the last 12 months	Chi-Square	p=0.2340

Symptoms during the night	<=2x/week	33 (13.2%)	78 (14.4%)	111 (14.1%)
	>2x/week, but <1x/day	24 (9.6%)	56 (10.4%)	80 (10.1%)
	>=1x/day	44 (17.6%)	88 (16.3%)	132 (16.7%)
	common nocturnal symptoms	98 (39.2%)	172 (31.9%)	270 (34.2%)
	unknown	11 (4.4%)	19 (3.5%)	30 (3.8%)
Exacerbations in the last 12 months	N	244	527	771
	none	32 (13.1%)	71 (13.5%)	103 (13.4%)
	unknown	8 (3.3%)	12 (2.3%)	20 (2.6%)
	1x/year	26 (10.7%)	84 (15.9%)	110 (14.3%)
	>1x/year, but <1x/month	157 (64.3%)	315 (59.8%)	472 (61.2%)
	>=1x/month	21 (8.6%)	45 (8.5%)	66 (8.6%)
Emergency medical treatment in the last 12 months	N	216	462	678
	no	115 (53.2%)	257 (55.6%)	372 (54.9%)
	yes	96 (44.4%)	198 (42.9%)	294 (43.4%)
	unknown	5 (2.3%)	7 (1.5%)	12 (1.8%)
Inpatient stay in the last 12 months	N	216	462	678
	no	155 (71.8%)	325 (70.3%)	480 (70.8%)
	yes	58 (26.9%)	133 (28.8%)	191 (28.2%)
	unknown	3 (1.4%)	4 (0.9%)	7 (1.0%)
Inpatient stay - intensive care in the last 12 months	N	216	461	677
	no	193 (89.4%)	411 (89.2%)	604 (89.2%)
	yes	20 (9.3%)	40 (8.7%)	60 (8.9%)
	unknown	3 (1.4%)	10 (2.2%)	13 (1.9%)
Inpatient stay - intubated in the last 12 months	N	215	462	677
	no	209 (97.2%)	450 (97.4%)	659 (97.3%)
	yes	1 (0.5%)	7 (1.5%)	8 (1.2%)
	unknown	5 (2.3%)	5 (1.1%)	10 (1.5%)

Asthma control (N=793)				
		Bronchospasmyse		
Item		positive	Negative	Total
GINA control status	N	250	541	791
	controlled	12 (4.8%)	32 (5.9%)	44 (5.6%)
	partly controlled	37 (14.8%)	98 (18.1%)	135 (17.1%)
	uncontrolled	201 (80.4%)	411 (76.0%)	612 (77.4%)
ACQ (points)	N	223	489	712
	Minimum	0.0	0.0	0.0
	Maximum	30.0	30.0	30.0
	Median	17.0	15.0	15.0
	Mean	15.5	14.4	14.8
	Standard dev.	7.7	7.2	7.4
AQLQ (points)	N	216	477	693
	Minimum	17.0	16.0	16.0
	Maximum	105.0	105.0	105.0
	Median	52.0	55.0	55.0
	Mean	56.1	58.2	57.5
	Standard dev.	20.4	18.8	19.3
ACT (points)	N	227	495	722
	Minimum	5.0	5.0	5.0
	Maximum	25.0	27.0	27.0
	Median	12.0	13.0	13.0
	Mean	13.4	13.9	13.8
	Standard dev.	5.6	5.4	5.5

Item	Statistic	p value
GINA control status	Chi-Square	p=0.3836
ACQ (points)	U-Test	p=0.0404
AQLQ (points)	U-Test	p=0.1152
ACT (points)	U-Test	p=0.1251

Table 3.6.8: Comorbidities (N=793)				
Item		Bronchospasmolyse		
		positive	negative	Total
Chronic sinusitis	N	250	541	791
	existent	105 (42.0%)	259 (47.9%)	364 (46.0%)
	non-existent/unknown	145 (58.0%)	282 (52.1%)	427 (54.0%)
Nasal polyps	N	118	273	391
	existent	41 (34.7%)	99 (36.3%)	140 (35.8%)
	non-existent/unknown	77 (65.3%)	174 (63.7%)	251 (64.2%)
If existent, ever OP	N	41	99	140
	no	10 (24.4%)	18 (18.2%)	28 (20.0%)
	yes	31 (75.6%)	81 (81.8%)	112 (80.0%)
Urticaria	N	118	273	391
	existent	7 (5.9%)	15 (5.5%)	22 (5.6%)
	non-existent/unknown	111 (94.1%)	258 (94.5%)	369 (94.4%)
ASS incompatibility	N	250	541	791
	existent	51 (20.4%)	134 (24.8%)	185 (23.4%)
	non-existent/unknown	199 (79.6%)	407 (75.2%)	606 (76.6%)
Increased infections of the lower respiratory tract (>2x/year)	N	250	540	790
	existent	144 (57.6%)	326 (60.4%)	470 (59.5%)
	non-existent/unknown	106 (42.4%)	214 (39.6%)	320 (40.5%)
COPD	N	250	541	791
	existent	13 (5.2%)	39 (7.2%)	52 (6.6%)
	non-existent/unknown	237 (94.8%)	502 (92.8%)	739 (93.4%)
alpha-1-antitrypsin deficiency	N	250	541	791
	existent	-	2 (0.4%)	2 (0.3%)
	non-existent/unknown	250 (100%)	539 (99.6%)	789 (99.7%)
Churg-Strauß Syndrome	N	250	541	791
	existent	1 (0.4%)	16 (3.0%)	17 (2.1%)
	non-existent/unknown	249 (99.6%)	525 (97.0%)	774 (97.9%)
Allergic	N	53	133	186
	existent	2 (3.8%)	-	2 (1.1%)

Item	Statistic	p value
Chronic sinusitis	Chi-Square	p=0.1233
Nasal polyps	Chi-Square	p=0.7738
If existent, ever OP	Chi-Square	p=0.4033
Urticaria	Chi-Square	p=0.8631
ASS incompatibility	Chi-Square	p=0.1771
Increased infections of the lower respiratory tract (>2x/year)	Chi-Square	p=0.4607
COPD	Chi-Square	p=0.2892
alpha-1-antitrypsin deficiency	Chi-Square	p=0.3358
Churg-Strauß Syndrome	Chi-Square	p=0.0211
Allergic alveolitis	Chi-Square	p=0.0243
Hypereosinophilic syndrome	Chi-Square	p=0.7618
Gastroesophageal reflux (GERD)	Chi-Square	p=0.0011
Vocal cord dysfunction (VCD)	Chi-Square	p=0.3307
Airway stenosis	Chi-Square	p=0.2381
Allergic bronchopulmonary aspergillosis	Chi-Square	p=0.1835
Recurrent pulmonary embolisms	Chi-Square	p=0.5753
Eosinophile pneumonia	Chi-Square	p=0.5201
Bronchiectasis unknown genesis	Chi-Square	p=0.6084
Bronchiolitis obliterans	Chi-Square	p=0.4964
Depression	Chi-Square	p=0.1926
Hyperventilation syndrome and panic attacks	Chi-Square	p=0.3930
Immunodeficiency	Chi-Square	p=0.1273
Atelectases (radiologically verified)	Chi-Square	p=0.1729
Arterial hypertension	Chi-Square	p=0.6734
Pulmonary hypertension	Chi-Square	p=0.4964
Other cardiovascular disease or abnormality	Chi-Square	p=0.1676
Neuromuscular diseases	Chi-Square	p=0.4276

Alveolitis	non-existent/unknown	51 (96.2%)	133 (100%)	184 (98.9%)
Interstitial lung diseases	N	53	133	186
	non-existent/unknown	53 (100%)	133 (100%)	186 (100%)
Hypereosinophilic syndrome	N	250	541	791
	existent	6 (2.4%)	15 (2.8%)	21 (2.7%)
Gastroesophageal reflux (GERD)	non-existent/unknown	244 (97.6%)	526 (97.2%)	770 (97.3%)
	N	250	540	790
Vocal cord dysfunction (VCD)	existent	70 (28.0%)	216 (40.0%)	286 (36.2%)
	non-existent/unknown	180 (72.0%)	324 (60.0%)	504 (63.8%)
Airway stenosis	N	250	541	791
	existent	3 (1.2%)	3 (0.6%)	6 (0.8%)
Cystic fibrosis	non-existent/unknown	247 (98.8%)	538 (99.4%)	785 (99.2%)
	N	250	541	791
Allergic bronchopulmonary aspergillosis	existent	-	3 (0.6%)	3 (0.4%)
	non-existent/unknown	250 (100%)	538 (99.4%)	788 (99.6%)
Recurrent pulmonary embolisms	N	250	541	791
	non-existent/unknown	250 (100%)	541 (100%)	791 (100%)
Eosinophile pneumonia	existent	1 (0.4%)	8 (1.5%)	9 (1.1%)
	non-existent/unknown	249 (99.6%)	533 (98.5%)	782 (98.9%)
Bronchiectasis unknown genesis	N	250	541	791
	existent	1 (0.4%)	1 (0.2%)	2 (0.3%)
Bronchiolitis obliterans	non-existent/unknown	249 (99.6%)	540 (99.8%)	789 (99.7%)
	N	250	541	791
Depression	existent	3 (1.2%)	4 (0.7%)	7 (0.9%)
	non-existent/unknown	247 (98.8%)	537 (99.3%)	784 (99.1%)
Hyperventilation syndrome and panic attacks	N	250	541	791
	existent	6 (2.4%)	10 (1.8%)	16 (2.0%)
Immunodeficiency	non-existent/unknown	244 (97.6%)	531 (98.2%)	775 (98.0%)
	N	250	541	791
Primary ciliary dyskinesia	existent	-	1 (0.2%)	1 (0.1%)
	non-existent/unknown	250 (100%)	540 (99.8%)	790 (99.9%)
Atelectases	N	250	541	791
	existent	41 (16.4%)	70 (12.9%)	111 (14.0%)
Atelectases	non-existent/unknown	209 (83.6%)	471 (87.1%)	680 (86.0%)
	N	250	540	790
Atelectases	existent	7 (2.8%)	10 (1.9%)	17 (2.2%)
	non-existent/unknown	243 (97.2%)	530 (98.1%)	773 (97.8%)
Atelectases	N	250	541	791
	existent	-	5 (0.9%)	5 (0.6%)
Atelectases	non-existent/unknown	250 (100%)	536 (99.1%)	786 (99.4%)
	N	250	541	791
Atelectases	non-existent/unknown	250 (100%)	541 (100%)	791 (100%)
	N	250	541	791
Atelectases	existent	-	4 (0.7%)	4 (0.5%)

(radiologically verified)	non-existent/unknown	250 (100%)	537 (99.3%)	787 (99.5%)
Arterial hypertension	N	250	541	791
	existent	89 (35.6%)	201 (37.2%)	290 (36.7%)
	non-existent/unknown	161 (64.4%)	340 (62.8%)	501 (63.3%)
Pulmonary hypertension	N	250	541	791
	existent	-	1 (0.2%)	1 (0.1%)
	non-existent/unknown	250 (100%)	540 (99.8%)	790 (99.9%)
Other cardiovascular disease or abnormality	N	250	541	791
	existent	5 (2.0%)	21 (3.9%)	26 (3.3%)
	non-existent/unknown	245 (98.0%)	520 (96.1%)	765 (96.7%)
Neuromuscular diseases	N	250	541	791
	existent	2 (0.8%)	2 (0.4%)	4 (0.5%)
	non-existent/unknown	248 (99.2%)	539 (99.6%)	787 (99.5%)
Sars-CoV2-Infection	N	12	45	57
	non-existent/unknown	12 (100%)	45 (100%)	57 (100%)



Lung function (N=793)				
		Bronchospasmolyse		
Item		positive	negative	Total
FEV1	N	250	539	789
	Minimum	0.4	0.5	0.4
	Maximum	3.9	5.0	5.0
	Median	1.6	1.8	1.7
	Mean	1.7	1.9	1.9
	Standard dev.	0.6	0.8	0.8
FEV1 [%]	N	250	539	789
	Minimum	17.00	21.00	17.00
	Maximum	99.80	128.00	128.00
	Median	55.00	64.00	61.00
	Mean	55.89	64.26	61.61
	Standard dev.	15.94	20.65	19.66
FVC	N	248	534	782
	Minimum	0.92	0.74	0.74
	Maximum	5.98	6.36	6.36
	Median	2.67	2.79	2.76
	Mean	2.82	2.98	2.93
	Standard dev.	0.92	1.04	1.00
FVC [%]	N	248	527	775
	Minimum	3.60	35.00	3.60
	Maximum	130.00	152.00	152.00
	Median	76.00	82.00	79.00
	Mean	74.81	81.10	79.09
	Standard dev.	17.99	18.58	18.62
FEV1/FVC	N	240	522	762
	Minimum	0.30	0.00	0.00
	Maximum	97.00	99.00	99.00
	Median	61.15	63.90	63.00
	Mean	57.96	60.85	59.94
	Standard dev.	19.59	21.08	20.65
PEF [L/sec]	N	242	529	771
	Minimum	0.71	0.80	0.71
	Maximum	9.32	11.11	11.11
	Median	4.08	4.80	4.38
	Standard dev.	1.59	1.98	1.89
PEF [%]	N	237	514	751
	Minimum	11.00	14.00	11.00
	Maximum	111.00	138.00	138.00
	Median	55.00	66.00	62.90
	Standard dev.	19.41	22.96	22.35
MEF25 [L/sec]	N	216	484	700
	Minimum	0.10	0.10	0.10
	Maximum	3.12	3.61	3.61
	Median	0.35	0.40	0.38
	Standard dev.	0.36	0.50	0.46
MEF25 [%]	N	198	433	631
	Minimum	10.00	10.00	10.00
	Maximum	84.90	173.70	173.70
	Median	22.00	27.00	25.00

Item	statistic	p value
FEV1	U-Test	p=0.0005
FEV1 [%]	U-Test	p<0.0001
FVC	U-Test	p=0.0990
FVC [%]	U-Test	p<0.0001
FEV1/FVC	U-Test	p=0.0079
PEF [L/sec]	U-Test	p<0.0001
PEF [%]	U-Test	p<0.0001
MEF25 [L/sec]	U-Test	p=0.0451
MEF25 [%]	U-Test	p=0.0004
MEF50 [L/sec]	U-Test	p=0.0002
MEF50 [%]	U-Test	p=0.0001
MEF75 [L/sec]	U-Test	p=0.0028
MEF75 [%]	U-Test	p<0.0001
Rtot [kPa*s/L]	U-Test	p<0.0001
Rtot [%]	U-Test	p<0.0001
RV [L]	U-Test	p=0.0038
RV [%]	U-Test	p=0.0009
TLC [L]	U-Test	p=0.5267
TLC [%]	U-Test	p=0.1821
iTGV [L]	U-Test	p=0.0572
iTGV [%]	U-Test	p=0.0268
FEV1 (last 2 years) [L]	U-Test	p=0.3111
FEV1 (last 2 years) [%]	U-Test	p=0.0203
FEV1 reversibility (calc.) [L]	U-Test	p<0.0001
FEV1 reversibility (calc.) [%]	U-Test	p<0.0001
CO-measurement: DLCO [%]	U-Test	p=0.5127
FeNO at presentation day [ppb]	U-Test	p=0.0121

	Mean	26.36	34.88	32.20
	Standard dev.	14.96	25.68	23.19
MEF50 [L/sec]	N	241	507	748
	Minimum	0.22	0.16	0.16
	Maximum	4.33	5.81	5.81
	Median	0.96	1.24	1.13
	Mean	1.14	1.51	1.39
	Standard dev.	0.70	1.10	1.01
MEF50 [%]	N	237	495	732
	Minimum	1.30	4.00	1.30
	Maximum	89.00	181.70	181.70
	Median	24.00	29.00	27.00
	Mean	27.43	36.98	33.89
	Standard dev.	16.32	27.73	25.01
MEF75 [L/sec]	N	211	432	643
	Minimum	0.32	0.37	0.32
	Maximum	6.00	6.00	6.00
	Median	2.11	2.58	2.39
	Mean	2.34	2.71	2.59
	Standard dev.	1.21	1.43	1.37
MEF75 [%]	N	210	450	660
	Minimum	6.00	4.10	4.10
	Maximum	105.00	156.00	156.00
	Median	34.20	41.00	38.55
	Mean	37.60	47.35	44.25
	Standard dev.	19.89	27.80	25.94
Rtot [kPa*s/L]	N	229	498	727
	Minimum	0.06	0.07	0.06
	Maximum	6.20	11.13	11.13
	Median	0.56	0.45	0.48
	Mean	0.70	0.59	0.62
	Standard dev.	0.64	0.76	0.72
Rtot [%]	N	217	480	697
	Minimum	1.40	23.00	1.40
	Maximum	391.00	397.50	397.50
	Median	179.00	148.00	156.20
	Mean	187.00	161.29	169.30
	Standard dev.	81.73	71.75	75.89
RV [L]	N	48	121	169
	Minimum	1.68	0.76	0.76
	Maximum	5.68	6.45	6.45
	Median	3.55	2.86	3.00
	Mean	3.47	2.99	3.12
	Standard dev.	0.98	1.09	1.08
RV [%]	N	49	120	169
	Minimum	107.00	78.00	78.00
	Maximum	369.00	297.00	369.00
	Median	166.00	145.00	152.00
	Mean	174.83	150.48	157.54
	Standard dev.	47.19	44.03	46.17
TLC [L]	N	49	121	170
	Minimum	4.04	2.77	2.77
	Maximum	11.12	14.52	14.52
	Median	6.25	6.23	6.24
	Mean	6.35	6.22	6.25
	Standard dev.	1.39	1.61	1.55
TLC [%]	N	49	120	169
	Minimum	77.00	13.00	13.00
	Maximum	177.00	179.00	179.00
	Median	108.00	102.00	103.00
	Mean	107.96	103.85	105.04
	Standard dev.	17.02	20.37	19.50
	N	44	98	142

iTVG [L]	Minimum	2.14	1.37	1.37
	Maximum	9.93	59.81	59.81
	Median	4.15	3.60	3.77
	Mean	4.19	4.37	4.32
	Standard dev.	1.33	5.82	4.89
iTVG [%]	N	44	97	141
	Minimum	81.00	16.00	16.00
	Maximum	283.00	300.00	300.00
	Median	131.00	119.00	122.70
	Mean	135.67	122.52	126.63
FEV1 (last 2 years) [L]	N	103	228	331
	Minimum	0.50	0.44	0.44
	Maximum	3.87	4.47	4.47
	Median	1.46	1.48	1.48
	Mean	1.53	1.66	1.62
FEV1 (last 2 years) [%]	N	103	227	330
	Minimum	18.00	16.00	16.00
	Maximum	89.00	112.00	112.00
	Median	49.00	55.00	52.95
	Mean	49.89	55.37	53.66
FEV1 reversibility (calc.) [L]	N	250	543	793
	Minimum	0.2	-2.4	-2.4
	Maximum	2.9	4.6	4.6
	Median	0.4	0.1	0.2
	Mean	0.5	0.1	0.2
FEV1 reversibility (calc.) [%]	N	250	543	793
	Minimum	12.2	-100.0	-100.0
	Maximum	294.8	26.3	294.8
	Median	23.2	4.5	8.4
	Mean	30.6	2.8	11.5
CO-measurement: DLCO [%]	N	175	351	526
	Minimum	20.0	16.0	16.0
	Maximum	99.0	100.0	100.0
	Median	71.2	73.0	72.0
	Mean	70.4	71.1	70.9
FeNO at presentation day [ppb]	N	177	395	572
	Minimum	5.0	0.0	0.0
	Maximum	300.0	300.0	300.0
	Median	41.0	33.0	34.0
	Mean	60.1	48.4	52.0
	Standard dev.	58.2	49.8	52.7

Table 3.6.5: Allergology and Laboratory (N=793)				
Item		Bronchospasmolyse		
		positive	negative	Total
Any allergic comorbidities	N	250	540	790
	no	71 (28.4%)	167 (30.9%)	238 (30.1%)
	yes	157 (62.8%)	339 (62.8%)	496 (62.8%)
	unknown	22 (8.8%)	34 (6.3%)	56 (7.1%)
- allergic rhinitis / rhinoconjunctivitis	N	249	540	789
	no	117 (47.0%)	258 (47.8%)	375 (47.5%)
	yes	132 (53.0%)	282 (52.2%)	414 (52.5%)
- food allergy	N	249	540	789
	no	197 (79.1%)	409 (75.7%)	606 (76.8%)
	yes	52 (20.9%)	131 (24.3%)	183 (23.2%)
- atopic eczema	N	249	540	789
	no	219 (88.0%)	466 (86.3%)	685 (86.8%)
	yes	30 (12.0%)	74 (13.7%)	104 (13.2%)
- others	N	249	540	789
	no	225 (90.4%)	491 (90.9%)	716 (90.7%)
	yes	24 (9.6%)	49 (9.1%)	73 (9.3%)
Prick Test: seasonal sensitisation	N	250	541	791
	no	121 (48.4%)	245 (45.3%)	366 (46.3%)
	yes	129 (51.6%)	296 (54.7%)	425 (53.7%)
Prick Test: perennial sensitisation	N	250	541	791
	no	104 (41.6%)	203 (37.5%)	307 (38.8%)
	yes	146 (58.4%)	338 (62.5%)	484 (61.2%)
Specific IgE: seasonal sensitisation	N	249	540	789
	no	172 (69.1%)	374 (69.3%)	546 (69.2%)
	yes	77 (30.9%)	166 (30.7%)	243 (30.8%)
Specific IgE: perennial sensitisation	N	249	540	789
	no	169 (67.9%)	352 (65.2%)	521 (66.0%)
	yes	80 (32.1%)	188 (34.8%)	268 (34.0%)
Total IgE [IU/mL] (actual)	N	169	369	538
	Minimum	3	1	1
	Maximum	9401	6338	9401
	Median	154.0	190.0	184.0
	Mean	477.0	445.8	455.6
Differential blood count: Neutrophiles abs.(calc.)	Standard dev.	1006.5	756.1	842.0
	N	220	476	696
	Minimum	0.0	0.0	0.0
	Maximum	87.7	69.4	87.7
	Median	4.9	5.1	5.0
Differential blood count: Eosinophiles abs.(calc.)	Mean	7.1	6.0	6.4
	Standard dev.	11.7	5.2	7.9
	N	220	476	696

Item	Statistic	p value
Any allergic comorbidities	Chi-Square	p=0.3920
- allergic rhinitis / rhinoconjunctivitis	Chi-Square	p=0.8364
- food allergy	Chi-Square	p=0.2964
- atopic eczema	Chi-Square	p=0.5229
- others	Chi-Square	p=0.7993
Prick Test: seasonal sensitisation	Chi-Square	p=0.4142
Prick Test: perennial sensitisation	Chi-Square	p=0.2740
Specific IgE: seasonal sensitisation	Chi-Square	p=0.9587
Specific IgE: perennial sensitisation	Chi-Square	p=0.4590
Total IgE [IU/mL] (actual)	U-Test	p=0.2414
Differential blood count: Neutrophiles abs.(calc.)	U-Test	p=0.2464
Differential blood count: Eosinophiles abs.(calc.)	U-Test	p=0.4073

Differential blood count: Eosinophiles abs.(calc.)	Minimum	0.2	0.0	0.0
	Maximum	10100.0	4716.0	10100.0
	Median	276.5	243.3	254.6
	Mean	467.7	412.3	429.8
	Standard dev.	923.7	535.9	682.5

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Table 3.6.7: Rehabilitation (N=793)				
		Bronchospasmyse		
Item		positive	negative	Total
Rehabilitation ever performed	N	250	540	790
	no	90 (36.0%)	197 (36.5%)	287 (36.3%)
	yes	153 (61.2%)	322 (59.6%)	475 (60.1%)
	unknown	7 (2.8%)	21 (3.9%)	28 (3.5%)
Rehabilitation : how often	N	153	322	475
	Minimum	1	1	1
	Maximum	16	25	25
	Median	2.0	2.0	2.0
	Mean	2.8	3.0	2.9
	Standard dev.	2.8	3.3	3.1
Rehabilitation in the last 12 months	N	250	540	790
	no	201 (80.4%)	427 (79.1%)	628 (79.5%)
	yes	42 (16.8%)	97 (18.0%)	139 (17.6%)
	unknown	7 (2.8%)	16 (3.0%)	23 (2.9%)
Rehabilitation in the last 12 months: how often	N	42	97	139
	1	42 (100%)	96 (99.0%)	138 (99.3%)
	2	-	1 (1.0%)	1 (0.7%)
Ever taken part in a structured asthma training	N	250	540	790
	no	99 (39.6%)	198 (36.7%)	297 (37.6%)
	yes	139 (55.6%)	317 (58.7%)	456 (57.7%)
	unknown	12 (4.8%)	25 (4.6%)	37 (4.7%)
Inhalation instruction ever performed	N	250	540	790
	no	38 (15.2%)	77 (14.3%)	115 (14.6%)
	yes	193 (77.2%)	428 (79.3%)	621 (78.6%)
	unknown	19 (7.6%)	35 (6.5%)	54 (6.8%)

Item	Statistic	p value
Rehabilitation ever performed	Chi-Square	p=0.7216
Rehabilitation : how often	U-Test	p=0.9255
Rehabilitation in the last 12 months	Chi-Square	p=0.9118
Rehabilitation in the last 12 months: how often	U-Test	p=0.5206
Ever taken part in a structured asthma training	Chi-Square	p=0.7093
Inhalation instruction ever performed	Chi-Square	p=0.7754

#### Abbreviations

ACT asthma control test

ACQ-5 asthma control questionnaire 5

AQLQ asthma quality of life questionnaire

ATS American Thoracic Society

BEC blood eosinophil count

BDR bronchodilator reversibility

COPD chronic obstructive pulmonary disease

DLCO diffusion capacity of the lung for carbon monoxide

EGPA eosinophilic granulomatosis with polyangiitis

ERS European Respiratory Society

FeNO fraction of exhaled NO

FEV1 forced expiratory volume in first second

FVC forced vital capacity

GAN German Asthma Net

GERD gastro-esophageal reflux disease

ICS inhaled corticosteroid

IgE Immunoglobulin E

IL5 Interleukin 5

IL5R $\alpha$  Interleukin 5 receptor  $\alpha$

LABA long-acting beta agonist

LAMA long-acting muscarinic antagonist

MEF50 maximal expiratory flow at 50 % of the forced vital capacity

OCS oral corticosteroid

PFT pulmonary function test

RCT randomized controlled trial

RV residual volume

SABA short-acting beta agonist

TLC total lung capacity