

Table A : General characteristics by site

		French site (n=300)			Austrian site (n=130)		
		Lung function	Radiology	Symptoms	Lung function	Radiology	Symptoms
All study subjects							
Number by outcome	n (%)	244 (81%)	287 (96%)	289 (96%)	100 (77%)	101 (78%)	87 (67%)
Men	n (%)	218 (83%)	250 (95%)	252 (96%)	92 (82%)	93 (83%)	77 (69%)
Women	n (%)	26 (68%)	37 (97%)	37 (97%)	8 (44%)	8 (44%)	10 (56%)
Age at inclusion ¹	mean (sd)	40.0 (8.7)	32.3 (8.6)	41.1 (9.5)	36.9 (8.2)	34.8 (8.1)	38.7 (8.3)
Smoking status at inclusion							
missing	n	-	-	-	27	9	-
Non smoker	n (%)	82 (34%)	111 (39%)	111 (38%)	36 (49%)	36 (39%)	31 (36%)
Current smoker	n (%)	95 (39%)	140 (48%)	109 (38%)	24 (33%)	44 (48%)	34 (39%)
Pack-years	mean (sd)	19 (15)	12 (11)	20(15)	13 (10)	12 (9)	14 (10%)
Ex-smoker	n (%)	67 (27%)	36 (13%)	69 (24%)	13 (18%)	12 (13%)	22 (25%)
All subjects with at least 2 examinations							
Number by outcome	n (%)	205 (68%)	271 (90%)	158 (53%)	78 (60%)	88 (68%)	22 (17%)
Duration of follow-up ²	mean (sd)	8.1 (4.0)	13.4 (4.3)	9.6 (2.1)	7.8 (1.6)	9.4 (3.3)	14.6 (0.1)
in years	min-max	0.5 – 14.8	1.4 – 24.7	1.6 – 14.8	4.0 – 9.7	4.0 – 14.3	14.2 – 14.7
Number of measures	mean(sd)	5.5 (2.6)	3.2 (0.8)	2.8 (0.4)	2.9 (0.5)	3.1 (0.7)	2 (0.0)
	min-max	2 – 14	2 – 5	2 – 3	2 – 5	2 – 4	-
Smoking status at the last follow-up							
Missing		-	-	-	27	20	-
Non smoker	n (%)	82 (34%)	111 (39%)	111 (38%)	35 (48%)	35 (43%)	31 (36%)
Current smoker	n (%)	67 (27%)	81 (28%)	82 (28%)	14 (19%)	22 (27%)	27 (31%)
Pack-years	mean (sd)	27 (17)	25 (17)	26(16)	15 (10)	15 (10)	16 (10)
Ex-smoker	n (%)	95 (39%)	95 (33%)	96 (33%)	24 (33%)	24 (30%)	29 (33%)

Table B Exposure characteristics before and during the longitudinal study period according to endpoint and site

		French site			Austrian site		
		Lung function	Radiology	Symptoms	Lung function	Radiology	Symptoms
At inclusion	(n)	244	287	289	100	101	87
Cumulative exposure at inclusion in years.mg/m ³	<i>mean (sd)</i> <i>min-max</i>	60.9 (83.3) 0.0 –418.9	42.5 (76.4) 0.0 – 358.7	59.0 (81.4) 0.0 – 393.4	40.5 (43.7) 0.4 –259.9	38.9 (45.0) 0.4 –248.6	39.5 (50.4) 1.5 – 272.8
Duration of exposure at inclusion in years	<i>mean (sd)</i> <i>min-max</i>	15.6 (8.7) 0.0-40.2	7.8 (7.9) 0-36.5	16.6 (9.1) 0.0-36.7	13.5 (7.5) 1.0-32.9	11.3 (7.3) 0.8-32.1	15.4 (7.9) 0.5-39.9
Mean exposure level before inclusion in .mg/m ³	<i>mean (sd)</i> <i>min-max</i>	3.7 (4.4) 0.1-23.5	4.7 (6.5) 0.0-30.0	3.9 (4.8) 0.1-23.5	2.5 (1.8) 0.3-8.5	3.0 (2.5) 0.3-10.0	2.7 (2.7) 0.3-10.0
Since inclusion	(n)	205	271	158	78	88	22
Cumulative exposure since inclusion* in years.mg/m ³	<i>mean (sd)</i> <i>min-max</i>	8.8 (9.1) 0.1 – 34.9	25.9 (31.7) 0.3 – 208.0	15.3 (8.3) 0.5 – 35.4	5.0 (2.8) 1.6 – 14.6	8.1 (6.5) 1.6 – 29.1	13.2 (6.5) 3.3 – 23.8
Duration of follow-up in years*	<i>mean (sd)</i> <i>min-max</i>	8.1 (4.0) 0.5-14.8	13.4 (4.3) 1.4-24.7	9.6 (2.1) 1.6-14.8	7.8 (1.6) 4.0-9.7	9.4 (3.3) 4.0-14.3	14.6 (0.1) 14.2-14.7
Mean exposure level since inclusion* in mg/m ³	<i>mean (sd)</i> <i>min-max</i>	1.0 (0.9) 0.1 – 4.7	1.8 (2.0) 0.1-13.8	1.6 (0.9) 0.1-4.3	0.6 (0.3) 0.2-1.7	0.8 (0.6) 0.2-4.1	0.9 (0.4) 0.2-1.6

*computed for the subjects for which each given endpoint had been obtained at least twice.

Table C Main health outcomes in categories of total cumulative exposure

Total cumulative exposure in years.mg/m ³		0 – 20	20 – 50	50 – 150	150 +
<i>Lung function test</i>	<i>n</i>	530	340	373	168
FEV ₁ * (n=1421)	mean (sd)	0.22 (0.93)	0.15 (0.95)	0.05 (1.03)	- 0.07 (0.99)
FVC* (n=1421)	mean (sd)	0.13 (0.86)	0.03 (0.90)	0.03 (0.84)	- 0.19 (0.89)
FEV ₁ / FVC* (n=1421)	mean (sd)	0.56 (0.85)	0.58 (0.74)	0.44 (1.11)	0.58 (0.96)
<i>Radiology †</i>	<i>n</i>	499	258	270	126
<i>Small radiological opacities</i>		34 (6.8%)	27 (10.5%)	41 (15.2%)	29 (23.0%)
0/1	n (%)	22 (4.4%)	23 (8.9%)	29 (10.7%)	17 (13.5%)
1/0	n (%)	7 (1.4%)	3 (1.2%)	9 (3.3%)	9 (7.1%)
1/1 +	n (%)	5 (1.0%)	1 (0.4%)	3 (1.1%)	3 (2.4%)
<i>Pleural anomalies</i>	<i>n (%)</i>	5 (1.2%)	2 (0.8%)	8 (3.0%)	4 (3.2%)
Unilateral plaques	n (%)	3 (0.6%)	-	6 (2.2%)	1 (0.8%)
Bilateral plaques	n (%)	-	-	1 (0.4%)	1 (0.8%)
Other	n (%)	2 (0.5%)	2 (0.8%)	1 (0.4%)	2 (1.7%)
<i>Respiratory symptoms</i>	<i>n</i>				
Chronic bronchitis	n (%)	3 (1.4%)	1 (0.6%)	10 (5.0%)	3 (2.7%)
Usual cough and/or phlegm	n (%)	17 (8.1%)	32 (18.8%)	43 (21.6%)	22 (20.0%)
Dyspnoea	n (%)	2 (1.0%)	4 (2.4%)	9 (4.5%)	6 (5.5%)

* in standardized residuals i.e. (observed – predicted)/residual standard deviation according to the prediction equations of the European Respiratory Society

† This descriptive table enumerates all 1153 X-rays, in contrast to the 1054 X-rays from males

Table D Main health outcomes in categories of cumulative exposure since inclusion

Cumulative exposure in years.mg/m ³ since inclusion		0-1	1-5	5-10	10-20	20 +
<i>Lung function test</i>						
	<i>n</i>	509	410	198	199	105
FEV ₁ * (n=1421)	mean (sd)	0.23 (1.02)	0.01 (0.95)	0.04 (1.13)	0.12 (0.90)	0.28 (0.84)
FVC* (n=1421)	mean (sd)	0.10 (0.90)	0.01 (0.82)	0.14 (0.92)	-0.02 (0.87)	- 0.03 (0.87)
FEV ₁ / FVC* (n=1421)	mean (sd)	0.64 (0.87)	0.51 (0.91)	0.48 (0.74)	0.47 (0.85)	0.54 (1.22)
<i>Radiology†</i>						
	<i>n</i>	399	220	111	154	269
<i>Small radiological opacities</i>		53 (13.3%)	19 (8.6%)	15 (13.5%)	18 (11.7%)	26 (9.7%)
0/1	n (%)	36 (9.0%)	11 (5.0%)	11 (9.9%)	11 (7.4%)	22 (8.2%)
1/0	n (%)	12 (3.0%)	5 (2.3%)	2 (1.8%)	6 (3.9%)	3 (1.1%)
1/1 +	n (%)	5 (1.3%)	3 (1.4%)	2 (1.8%)	1 (0.7%)	1 (0.4 %)
<i>Pleural anomalies</i>		6 (1.5%)	2 (0.9%)	2 (1.8%)	3 (2.0%)	6 (1.9%)
Unilateral plaques	n (%)	2 (0.5%)	-	1 (0.9%)	2 (1.3%)	5 (1.9%)
Bilateral plaques	n (%)	1 (0.3%)	-	-	-	1 (0.4%)
Other	n (%)	3 (0.8%)	2 (0.9%)	1 (0.9%)	1 (0.7%)	-
<i>Respiratory symptoms</i>						
Chronic bronchitis	n (%)	12 (3.1%)	-	1 (1.1%)	4 (4.4%)	-
Usual cough and/or phlegm	n (%)	61 (15.7%)	7 (13.2%)	11 (12.1%)	20 (22.0%)	15 (23.1%)
Dyspnoea	n (%)	10 (2.6%)	2 (3.8%)	1 (1.1%)	4 (4.4%)	4 (6.2%)

* in standardized residuals i.e. (observed –predicted)/residual standard deviation according to the prediction equations of the European Respiratory Society

† This descriptive table enumerates all 1153 X-rays, in contrast to the 1054 X-rays from males

Table E : Random effect linear regression models of the lung function parameters as a function of confounders and cumulative exposure variables lagged by 5 years.

	FEV ₁ (mL)* (n‡ = 1368)		FVC (mL)† (n‡ = 1368)		FEV ₁ / FVC (%) (n‡ = 1368)	
	Regression coefficient	95% confidence interval	Regression coefficient	95% confidence interval	Regression coefficient	95% confidence interval
Regression model including confounders§ and total estimated cumulative exposure						
Pack-years	-6.06	-9.44,-2.72	-3.79	-7.48,-0.10	-0.072	-0.115,-0.028
Total lagged cumulative exposure by 10 years.mg/m ³	-6.01	-13.08, -1.06	-5.64	-13.32,2.03	-0.019	-0.109,0.070
Regression model including confounders, cumulative exposure at inclusion and cumulative exposure since inclusion						
Pack-years	-6.15	-9.52,-2.79	-3.89	-7.59 , -0.20	-0.115	-0.117,-0.028
Initial lagged cumulative exposure by 10 years.mg/m ³	-7.78	-15.80, 0.34	-8.53	-17.22 , 0.15	-0.014	-0.096,0.087
Lagged cumulative exposure since inclusion by 10 years.mg/m ³	0.18	-15.48,15.84	6.06	-12.22,24.35	-0.044	-0.268,0.181

* FEV₁ : forced expiratory volume in one second

† FVC: forced vital capacity

‡ n : number of valid measurements

§ The confounders are, in addition to pack-years, the type of apparatus, sex, sex-specific age and height and medical histories

Table F : Population-averaged logistic regression models of the prevalence of small radiological opacities and pleural shadows as a function of confounders and cumulative exposure variables lagged by 5 years in the combined male study population

	Profusion $\geq 0/1$		Profusion $\geq 1/0$		Pleural abnormalities*	
Number of positive radiographs (% of 1,054†)	131 (12.4%)		40 (3.8%)		19 (1.8%)	
Number of subjects with at least one positive finding (% of 343‡)	93 (27.1%)		31 (9.0%)		16 (4.9%)	
	Odds Ratio	95% confidence interval	Odds Ratio	95% confidence interval	Odds Ratio	95% confidence interval
Logistic regression model including confounders§ and total estimated cumulative exposure						
Smoker	1.68	1.10, 2.57	1.84	0.87, 3.87	-	-
Obesity¶	-	-	-	-	3.87	1.20, 12.4
Austrian site	1.80	1.11, 2.91	1.50	0.61, 3.68	3.13	1.11, 8.85
Total lagged cumulative exposure by 10 years.mg/m ³	1.046	1.021, 1.073	1.057	1.024, 1.091	1.059	1.002,1.126
Logistic regression model including confounders§, cumulative exposure at inclusion and since inclusion						
Smoker	1.56	1.11, 2.40	1.68	0.78, 3.60		
Obesity	-	-	-	-	3.88	1.32, 11.42
Austrian site	1.66	1.02, 2.68	1.36	0.551, 3.352	3.11	1.09, 8.90
Initial lagged cumulative exposure by 10 years.mg/m ³	1.081	1.043, 1.120	1.089	1.048, 1.132	1.060	0.948, 1.119
Lagged cumulative exposure since inclusion by 10 years.mg/m ³	0.967	0.913, 1.023	0.960	0.885, 1.041	1.056	0.950, 1.173

* Defined as any pleural abnormality on the X-ray not infirmed by a later high –resolution computed tomography

† Number of radiographies obtained in the male study population

‡ Number of male subjects with at least one radiography

§ The confounders are smoking and site (for small opacities) or obesity and site (for pleural shadows)

¶ Obesity is defined as a body mass index greater than 30 kg/m².