

## ONLINE SUPPLEMENTARY MATERIAL

### **Pleural mesothelioma and asbestos exposure: a case-control study with quantitative risk assessment**

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## **Supplementary Methods**

### **Questionnaire**

The questionnaire included sections on demographic characteristics, lifelong occupational and residential histories, selected leisure time activities and characteristics of the home environment possibly relevant for asbestos exposure. It also included a brief clinical history with focus on occupational chest diseases.

A lifelong occupational history was elicited, including, for each job, the job title, industry, and dates of beginning and ending. A set of job specific modules (JSM) was used to facilitate a standardized collection of detailed exposure information, after the lifelong occupational history was completed. Thirty-three JSMs were available, including 58 industries or occupations, plus 3 general purpose JSMs, respectively for other blue collar workers, other white collar workers and shopkeepers.[1]

Information collected for each dwelling included: address, a set of questions about the use of asbestos material in the house and its presence around it (roof coverings, courtyards, gardens), and a description of the neighbourhood environment. A check-list was also used to investigate the presence of selected industrial activities nearby.

Information was also gathered on family members and cohabitants (household members - in the present paper the two are considered as one category). This section started with an abridged occupational history for each family member, supplemented by a checklist of occupational activities known to have entailed asbestos exposure. Positive answers were further investigated by using a particular specific module, including questions about work clothes and other materials possibly brought home.

**Table S1.** Case-control study on pleural mesothelioma in the Casale Monferrato area. Risk of mesothelioma by cumulative exposure and probability of exposure: odds ratios (OR) adjusted by age, sex and type of interview and 95% confidence intervals (95% CI)

**Definite only**

	<b>Cases</b>	<b>Controls</b>	<b>OR (95% CI)</b>
<b>Fibre/ml-years</b>	N (%)	N (%)	
background level (<0.1)	16 (8.0)	130 (37.4)	1 (ref)
>=0.1 - <1	35 (17.5)	100 (28.7)	3.9 (1.8-8.2)
>=1 - <10	102 (51.0)	100 (28.7)	11.2 (5.6-22.6)
>=10 (Mean of fibres in this class: 219; Range of fibres in this class: 10-4128)	47 (23.5)	18 (5.2)	34.9 (14.4-84.4)
Total	200 (100.0)	348 (100.0)	

**Definite and probable**

	<b>Cases</b>	<b>Controls</b>	<b>OR (95% CI)</b>
<b>Fibre/ml-years</b>	N (%)	N (%)	
background level (<0.1)	13 (6.5)	126 (36.2)	1 (ref)
>=0.1 - <1	32 (16.0)	100 (28.7)	4.1 (1.8-9.1)
>=1 - <10	107 (53.5)	104 (29.9)	12.6 (6.1-26.2)
>=10 (Mean of fibres in this class: 216; Range of fibres in this class:10-4128)	48 (24.0)	18 (5.2)	39.4 (15.8-98.0)
Total	200 (100.0)	348 (100.0)	

**Definite, probable and possible**

	<b>Cases</b>	<b>Controls</b>	<b>OR (95% CI)</b>
<b>Fibre/ml-years</b>	N (%)	N (%)	
background level (<0.1)	8 (4.0)	106 (30.5)	1 (ref)
>=0.1 - <1	26 (13.0)	108 (31.0)	4.4 (1.7-11.3)
>=1 - <10	113 (56.5)	115 (33.0)	17.5 (7.3-41.8)
>=10 (Mean of fibres in this class: 201; Range of fibres in this class:10-4128)	53 (26.5)	19 (5.5)	62.1 (22.2-173.2)
Total	200 (100.0)	348 (100.0)	

**Table S2.** Case-control study on pleural mesothelioma in the Casale Monferrato area. Risk of mesothelioma by cumulative exposure and route of exposure: odds ratios (OR) adjusted by age, sex and type of interview and 95% confidence intervals (95% CI).

### Occupational

	Cases	Controls	OR (95% CI)	OR <sup>adj</sup> (95% CI)
<b>Fibre/ml-years</b>	N (%)	N (%)		
background level (<0.1)	95 (47.5)	235 (67.5)	1 (ref)	1 (ref)
>=0.1 - <1	23 (11.5)	61 (17.5)	1.1 (0.6-2.1)	1.5 (0.7-2.8)
>=1 - <10	43 (21.5)	37 (10.6)	2.8 (1.5-5.3)	2.5 (1.3-4.9)
>=10 (Mean of fibres in this class:260; Range of fibres in this class:10-4126)	39 (19.5)	15 (4.3)	9.2 (4.4-19.2)	10.2 (4.6-22.7)
Total	200 (100.0)	348 (100.0)		

### Environmental

	Cases	Controls	OR (95% CI)	OR <sup>adj</sup> (95% CI)
<b>Fibre/ml-years</b>	N (%)	N (%)		
background level (<0.1)	35 (17.5)	160 (46.0)	1 (ref)	1 (ref)
>=0.1 - <1	69 (34.5)	119 (34.2)	2.9 (1.7-5.0)	2.5 (1.4-4.3)
>=1 - <10	89 (44.5)	68 (19.5)	6.8 (3.9-11.8)	6.3 (3.5-11.2)
>=10 (Mean of fibres in this class:15; Range of fibres in this class: 10-24)	7 (3.5)	1 (0.3)	15.7 (1.5-165.8)	14.4 (1.3-163.9)
Total	200 (100.0)	348 (100.0)		

### Familial/Domestic

	Cases	Controls	OR (95% CI)	OR <sup>adj</sup> (95% CI)
<b>Fibre/ml-years</b>	N (%)	N (%)		
background level (<0.1)	144 (72.0)	306 (87.9)	1 (ref)	1 (ref)
>=0.1 - <1	24 (12.0)	22 (6.3)	2.7 (1.4-5.5)	2.0 (0.9-4.3)
>=1 - <10	27 (13.5)	18 (5.2)	3.4 (1.7-7.0)	2.9 (1.4-6.3)
>=10 (Mean of fibres in this class:16; Range of fibres in this class: 11-28)	5 (2.5)	2 (0.6)	5.2 (0.9-29.9)	6.8 (0.9-52.5)
Total	200 (100.0)	348 (100.0)		

OR<sup>adj</sup>: mutual adjustment by route of exposure

**Table S3.** Case-control study on pleural mesothelioma in the Casale Monferrato area. Risk of mesothelioma by cumulative exposure and type of interview: odds ratios (OR) adjusted by age and sex and 95% confidence intervals (95%CI)

**Direct interview to study subjects**

	<b>Cases</b>	<b>Controls</b>	<b>OR (95% CI)</b>
<b>Fibre/ml-years</b>	N (%)	N (%)	
background level (<0.1)	2 (1.8)	96 (29.7)	1 (ref)
>=0.1 - <1	13 (12.0)	103 (31.9)	6.6 (1.4-30.1)
>=1 - <10	60 (55.6)	106 (32.8)	30.5 (7.2-129.8)
>=10 (Mean of fibres in this class: 247; Range of fibres in this class: 10-4128)	33 (30.6)	18 (5.6)	114.8 (24.2-544.9)
Total	108 (100.0)	323 (100.0)	

**Proxy interview**

	<b>Cases</b>	<b>Controls</b>	<b>OR (95% CI)</b>
<b>Fibre/ml-years</b>	N (%)	N (%)	
background level (<0.1)	6 (6.5)	10 (40.0)	1 (ref)
>=0.1 - <1	13 (14.1)	5 (20.0)	3.9 (0.9-17.4)
>=1 - <10	53 (57.6)	9 (36.0)	9.4 (2.6-33.4)
>=10 (Mean of fibres in this class: 89; Range of fibres in this class: 10-929)	20 (21.7)	1 (4.0)	26.9 (2.8-261.4)
Total	92 (100.0)	25 (100.0)	

## Reference

- 1 Magnani C, Agudo A, Gonzales CA, *et al.* Multicentric study on malignant pleural mesothelioma and non-occupational exposure to asbestos. *Br J Cancer* 2000;83:104–111.