

Re: "Malignant pleural mesothelioma among Swiss furniture workers: a new high-risk group" by CE Minder, J-P Vader. *Scand J Work Environ Health* 1988;14:252-6

The data recently published in the *Scandinavian Journal of Work, Environment & Health* by CE Minder and JP Vader (1), although interesting, might, in our opinion, have been insufficiently examined in order to exclude the possibility of exposure to asbestos being the cause of the observed excess of mesotheliomas.

These authors indicated that Swiss furniture workers are at risk for mesotheliomas when the census classification (ie, the job entailed) for deaths during the period 1975-1985 is considered (odds ratio 3.2, standardized mortality ratio 271, both based on 12 death certificates). They expressed the opinion that the data "do not support the hypothesis of asbestos exposure [p 255]" as risk factor after reviewing the occupational history of "all seven cases designated as occurring in furniture workers in the first four years 1979 to 1982 [p 253]" as reported in the clinical records.

If a risk factor other than asbestos is linked to mesotheliomas among furniture workers, the excess should remain significantly higher also after the exclusion — following the reference of a cluster of mesotheliomas (2) — of the cases clearly exposed to asbestos. These are all those classified as woodworkers in two (not one) railway car construction and repair plants. The simple exclusion of some of these, two referred to as furniture workers ("Schreiner") and four as carpenters ("Zimmermann"), would strongly reduce the odds ratio and the standardized mortality ratio towards unity. Furthermore, in the case series of furniture workers, the number of subjects exposed to asbestos might have been even higher because 15 cases of mesothelioma among 160 collected in a period of time partially overlapping the one under study occurred among woodworkers ("Schreiner" or "Zimmrleute") employed in railroad shops (Rüttner, personal communication).

We are currently making a search for the cases of mesothelioma that have occurred among railroad workers in Italy since 1975; this activity has been performed at sites of the Italian Railways and in factories which build and repair carriages and coaches for the Italian Railways. Even if cases of mesothelioma are collected without a specific epidemiologic study, the number appears impressive (around 60). If the environmental pollution by asbestos in industrial activities is not considered, several specific jobs performed by workers would seem, erroneously, unrelated to asbestos exposure; among railroad workers examples of such jobs are furniture workers, painters, and up-

holsterers. For instance, four of the persons with mesothelioma among the 26 currently known to have worked in railroad shops were furniture workers, and environmental data suggest that their exposure to asbestos was among the highest if compared to that of other tasks.

The difference between "general carpenters" and "woodworking machine operators" appears to be really subjective if based on the International Standard Classification of Occupations (3) and on the activities performed at railroad shops. As a consequence, also the exclusion of "general carpenters" from the exposed group probably needs to be revised.

In conclusion, in our opinion, the inquiry on exposure to asbestos in Drs Minder and Vader's study on an occupational group identified as at risk for mesotheliomas is incomplete (4). The authors pointed out that several tasks performed at railroad firms need to be considered at risk of asbestos-related diseases. It must be borne in mind that in several European countries the risk of exposure to asbestos is a consequence not only of its use and removal from steam locomotives, but, for the most part, of its use as insulation in passenger carriages. Our own experience indicates that the risk has been present everywhere that cars or coaches have been built, insulated, and repaired, and asbestos has been used.

References

1. Minder CE, Vader JP. Malignant pleural mesothelioma among Swiss furniture workers: a new high-risk group. *Scand J Work Environ Health* 1988;14:252-6.
2. Rüttner JR, Reber P, Schuler G, Spycher MA, Stolklin I, Wälchli P. Endemie von Pleuralmesotheliomen in Eisenbahnwagenbau- und -reparaturbetrieben. *Arbeitsmed Sozialmed Präventivmed* 1985;20:128-30.
3. International Labour Office. International standard classification of occupations. Geneva: International Labour Organisation, 1981.
4. Järholm B, Malmer H, Malmer B, Ericsson J, Sallsten G. Pleural mesotheliomas and asbestos exposure in the pulp and paper industries: a new risk group identified by linkage of official registers. *Am J Ind Med* 1988;13:561-7.

Enzo Merler, MD,¹ Paolo Ricci, MD²

¹ Epidemiology Unit, Centro per lo Studio e la Prevenzione Oncologica, Viale Volta 171, I-50131 Florence, Italy.

² Occupational Health Service, Local Health Unit n 47, via Battisti, 5, I-46100 Mantova, Italy.