Letter to the Editor

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Mesothelioma in a Connecticut Friction Plant: The Need for Transparency and Exposure Information in Attribution of Risk

Received 20 September 2010; in final form 24 January 2011

Several investigators, including myself and my colleagues, have addressed the issue of mesothelioma among employees of the Raybestos Manhattan friction products plant in Connecticut (CT) that, according to McDonald et al. (1984), mainly used chrysotile asbestos. Anthophyllite was used starting in 1957, and a small volume of crocidolite was used between 1964 and 1972 (McDonald et al., 1984).

Our investigation was a mesothelioma case-control study based on incidence data through 1977 from the CT tumor registry (Teta et al., 1983). We identified three mesothelioma cases, two female clerical workers in the friction plant and one male who worked in a parent asbestos textile plant. McDonald et al. (1984) published a cohort mortality study of male workers at this plant that did not identify any mesothelioma deaths based on death certificates, also through 1977 (McDonald et al., 1984, 1986). The male mesothelioma case identified by Teta et al. (1983) did not meet the inclusion criteria for the McDonald et al. (1984) cohort study, and the two female workers, both of whom were in the cohort, were not certified at death as having malignant mesothelioma (McDonald, 1986; Teta et al., 1986). Almost 20 years later, Egilman and Billings (2005), in a case series report, cite six cases of mesothelioma at this plant based on information from lawsuits. This case series was recently updated by Finkelstein and Meisenkothen (2010).

The current case series by Finkelstein and Meisenkothen (2010) reports six workers from the CT plant who died of mesothelioma. The authors attempt to correct the Egilman and Billings (2005) list and combine the results with the two female cases we identified in 1983. Finkelstein and Meisenkothen (2010) removed two of Egilman and Billings’s reported six cases because one worked at the Raybestos Pennsylvania (PA) plant, but not at the CT facility, and one had mixed exposure due to Navy experience. According to a recent deposition of Dr Finkelstein (US District Court, 2010), Mr Meisenkothen, his co-author and a plaintiff’s attorney for mesothelioma cases, reviewed the work histories available from the plaintiffs’ case files and provided the limited information (in Table 1 of their article) to Dr Finkelstein. This underscores the uncertainties relative to the four cases derived from lawsuits.

Based on my knowledge of the CT facility, there are a number of uncertainties about these cases that were not made transparent by Finkelstein and Meisenkothen (2010). The key issue is not whether there are former employees of the CT plant who developed mesothelioma, but whether they are attributable to chrysotile exposure at this facility. Finkelstein and Meisenkothen (2010) make no such distinction nor consider any uncertainties about their six reported cases, relying solely on work histories available from the plaintiffs’ case files and assumptions regarding the two female cases we identified. For example, the following are some of the issues that these authors should have discussed with regard to the two cases included from Teta et al. (1983):

1. In 1986, myself and my colleagues replied to a letter to the editor by McDonald noting that we could not exclude the possibility of other jobs or domestic exposure as explanations for the two female clerical workers we identified at the CT friction plant (Teta et al. 1986).
2. We (RA Vidone) conducted a pathologic review for 91% of cases and classified cases into five categories: ‘mesothelioma’, ‘probably mesothelioma’, ‘probably mesothelioma’, ‘not mesothelioma’, and ‘unclassified’ (Teta et al., 1986). One of the female mesothelioma cases was considered ‘definite’ peritoneal mesothelioma with asbestosis based on our pathologic review, which suggests prior heavy amphibole exposure. Although not noted in publications, our City Directory search found that this woman migrated to CT from PA, raising the issue of possible employment at the Raybestos plant in PA.

3. The other female case from Teta et al. (1983) was considered a ‘probable’ mesothelioma case, not a ‘definite’ mesothelioma case, with only 5 years employment at the CT plant.

4. In contrast to the female clerical workers, we were unable to identify any mesothelioma cases through 1977 among the 3,641 men, who worked at the plant between 1938 and 1958.

In addition to the missing information regarding the two cases of mesothelioma in the Teta et al. (1983) study, additional information regarding the four other cases included in the Finkelstein and Meisenkothen (2010) list derived from legal cases is relevant to the interpretation. Some of this comes from documents shown to Dr Finkelstein in deposition (US District Court, 2010). Specifically:

1. Case 2, as described in the paper as a male maintenance worker and foreman, described himself as a sheet metal worker and maintenance man. It was also put to Dr Finkelstein that this worker was exposed to products that might have included amosite (US District Court, 2010).

2. It was also put to Dr Finkelstein that Case 6, a machine operator, also worked around insulation containing amosite (US District Court, 2010).

3. Similar to the male case from Teta et al. (1983) that was excluded from the Finkelstein and Meisenkothen (2010) list, Case 1, a woman, worked at the old Raybestos CT textile plant from 1926 to 1937. Information on fiber type was not provided in the McDonald cohort study (McDonald et al., 1984); however, the authors excluded from the chrysotile plant study any workers that they knew worked at the textile plant, presumably due to potential exposure to amphibole asbestos.

The Finkelstein and Meisenkothen (2010) report states, ‘We reviewed the work history and medical information from their case files for the preparation of this report’. The documents shown to Dr Finkelstein in the deposition were derived from these case files. Furthermore, all the four male cases were employed at the CT friction plant during the time period when two amphiboles, anthophyllite (some added in 1957 for making paper discs and bands) and crocidolite (approximately 400 lbs (180 kg) used experimentally between 1964 and 1972 [McDonald et al., 1984]), were in use. While some might argue that the limited presence of crocidolite in the production process is insignificant, the work of Berry and colleagues in friction plants suggest otherwise (Newhouse et al. 1982; Berry and Newhouse 1983; Newhouse and Sullivan 1989; Berry, 1994). These researchers studied an old chrysotile friction products plant in the UK that uncovered 13 cases of mesothelioma. After several follow-up investigations, they revealed that 10 of the 13 cases worked with or near a crocidolite operation that only existed between 1929–1933 and 1939–1944. Of the three remaining cases, one had previous exposure at an asbestos cement factory, the second had an unconfirmed diagnosis, and the third worked at the facility for only 2 weeks.

Prior to attribution or use in quantitative risk assessment, more complete information and greater transparency on other possible explanations for cases that occur among former employees of the Raybestos CT plant should be considered, ideally in the form of an epidemiology study, rather than case reports from litigation.

Conflict of interests: Dr. Teta has served as an expert in litigation related to asbestos, mesothelioma, and friction products, and as a consultant for asbestos-related matters.

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REFERENCES


doi:10.1093/annhyg/mer049