Prognosis of Patients With Silicosis Due to Denim Sandblasting

To the Editor:

We read with great interest the article by Bakan et al. 1 in a recent issue of CHEST (November 2011). The authors describe the patient characteristics in yet another important but tragic description of the ongoing silicosis epidemic among denim sandblasters in the textile sector in Turkey. As they report, this silicosis outbreak emerged with the new millennium, the magnitude of the problem has continued to increase, 1,2 and it remains uncertain how much of the iceberg has been revealed.

Although they give detailed information about the patients and report a statistically significant association of reduced lung function tests with mortality, the information provided about fatal cases is insufficient to ascertain the cause of death and the progression to massive fibrosis. Younger workers dominate this work sector, 3 and we noted rapid progression of the disease, and mortality was associated with younger age and also with higher exposures to crystalline silica. However, in their study, the mean age of the patients in the fatal cases is older compared with the entire study population (35 years vs 31.1 years). We also wonder if there was a relationship between invasive procedures and mortality for the patients in their study.

Before silicosis was recognized in the textile sector, we established a diagnosis using invasive procedures, including bronchoscopic transbronchial biopsy and surgical lung biopsy, as detailed in our previous studies. 2,3 However, both patients who had surgical biopsies died following the biopsy. Their study dataset might shed information about such risks. In addition to disease progression and mortality, the high compensation rates of the patients in the study by Bakan et al. 1 also attracted our attention. It would be useful to know whether the patients received compensation because they were insured or if they were successful in receiving compensation as the results of the temporary national law that provided compensation rights for uninsured workers through May 2011. It is plausible too that poor working conditions are more likely for workers employed without insurance because such workplaces are unlikely to be well regulated and inspected. Thus, being insured might confer better working conditions and better health outcomes.

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References


Response

To the Editor:

We thank Dr Akgun and colleagues for their interest regarding our article 1 published in CHEST and appreciate the data regarding the effects of age and invasive procedures on mortality. We acknowledge that the relationship between reduced lung functions at the time of diagnosis and mortality cannot be used to ascertain the causes leading to progressive massive fibrosis and death. It is already discussed in the article 1 that we were not able to conduct work-site visits that might clarify the possible causes for development of severe illness, such as size of the work site, protective measures, ambient dust level, and so on. Unfortunately, the factors leading to more severe disease and death are still unclear.

In contrast to previously published data, 2 we found no association between age and mortality (P = .69). The mean age difference between the patients who died and the entire study population is a result of the calculation time. The given mean age in the article was the age at first admission and not at the end of the follow-up period, as it was for the patients who died. Considering the number of fatal cases, it would have been more accurate to give the median age (31.5) instead of the mean age.

Five of the six patients who died had undergone invasive procedures (two open-lung biopsies, three transbronchial biopsies). Although it was not presented in the article, it seems that there is a relationship between invasive procedures and mortality (P = 0.0084), parallel with results from studies by Akgun et al. 2,3 Therefore, it is crucial to raise awareness among physicians regarding the denim sandblasting occupation in order to avoid interventional procedures in patients with silicosis.

All nine patients who were compensated were covered by insurance. The uninsured workers received no compensation until the end of the follow-up period of the study (December 2009). Presently, the temporary law enables uninsured workers only to file for disability. It is expected that uninsured workers are more likely to work in poorer conditions than insured workers, and all workers who develop silicosis must be encouraged to seek compensation.

Whatever the reason for the tragic outcomes of silicosis in denim sandblasters, it still continues to kill young people. Unfortunately, four more patients died after the submission of the manuscript.

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