



## Comment on: "Low-dose computed tomography screening for lung cancer in people with workplace exposure to asbestos"



To the Editor,

We read with interest the article by Maisonneuve et al. [1] concerning Low-dose computed tomography screening for lung cancer in those with asbestos-exposure in the workplace.

We note from their case control study of 216 asbestos exposed individuals just 10.2% had pleural plaques and there was no significant difference to the control group in the frequency of signs of interstitial lung disease, suggesting low cumulative asbestos exposure.

In our population of 1743 asbestos-exposed individuals (defined as equivalent of  $\geq 3$  months full-time occupational exposure to asbestos or pleural plaques on chest x-ray) in the Western Australian Asbestos Review Program (ARP), 18 lung cancers have been detected since 2012, despite a third of our cohort being never smokers and a modest median smoking history in the ever-smokers of 17 pack years (IQR 7.2–33). The ARP has over 3958 person-years of observation until mid-2017 and we found a detection rate of 0.5 per 100 person-years, similar to the rate in both the asbestos-exposed and controls in the case-control study by Maisonneuve et al. of 0.6 and 0.8 respectively. Further, in the ARP cohort, 61.1% have pleural plaques and 34.5% have interstitial changes consistent with asbestosis as per the Helsinki criteria [2]. Thus, the difference in lung cancer detection between these two populations may be related to cumulative asbestos exposure which we have estimated as being median 0.7 fibre/ml.yrs (IQR 0.09–3.0) in our ARP population.

In our cohort, four lung cancers have been detected in never smokers (4 out of 596 screened and 22% of all lung cancers detected). The majority (10/18) of lung cancers would not have been detected had recruitment been based on any current lung cancer screening guidelines (NCCN or PLCom2012) [3,4]. We note that the meta-analysis of nine studies of asbestos-exposed never-smokers demonstrated a low detection rate for lung cancer, given the rarity of lung cancer in these studies, the relatively low numbers of individuals studied and variable methods of estimating asbestos-exposure, extrapolation of these results to all

asbestos-exposed never-smokers would be ill-advised.

We contend that other features conferring an increased risk of lung cancer following significant asbestos-exposure, such as presence of interstitial changes [5] should be considered in those with low tobacco exposure. Other risk factors including family and personal history of cancer also need to be considered.

In light of the ARP findings, we would suggest caution when excluding asbestos-exposed never or 'light' smokers from occupational lung cancer screening programs, as consideration of duration of asbestos exposure may be of significant importance [6]. Further work is required to stratify the risk profiles of the never-smoking population that would enable a clinically, and cost-effective screening program.

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