

Oral Presentation

Dusts and Fibres

0402 DOES LUNG CANCER INCIDENCE AND MORTALITY DIFFER WITH THE TYPE OF ASBESTOS FIBRE? : EVIDENCE FROM WESTERN AUSTRALIA

¹Nita Sodhi, ^{1,2}Nick deKlerk*, ¹Peter Franklin, ^{1,3}Fraser Brims, ⁴Susan Peters, ¹Nola Olsen, ^{1,3}Bill Musk. ¹The University of Western Australia, Perth, WA, Australia; ²Telethon Kids Institute, Perth, WA, Australia; ³Sir Charles Gairdner Hospital, Perth, WA, Australia; ⁴Utrecht University, Utrecht, The Netherlands

10.1136/oemed-2017-104636.330

Background Crocidolite is known to be the most carcinogenic form of asbestos for mesothelioma. This study aimed to assess if there was a difference between crocidolite and mixed asbestos fibre exposure for rates of lung cancer incidence and mortality after adjusting for smoking.

Methods Administrative datasets were used to identify lung cancer incidence and deaths in three Western Australian cohorts of people exposed to: crocidolite as miners and millers at Wittenoom; crocidolite as residents of Wittenoom; and mixed asbestos fibres occupationally. Multivariable Poisson regression models were used to compare the 5 year incidence and mortality rates between these cohorts after starting a health surveillance program. Explanatory variables included radiological evidence of asbestosis and cumulative asbestos exposures as determined through our Asbestos Job-Exposure Matrix (AsbJEM) after adjusting for smoking pack years, time since smoking cessation, age and sex.

Results The 5 year lung cancer incidence (n=176) and mortality (n=125) rates increased with radiological evidence of asbestosis (2.4-fold), increasing cumulative asbestos exposure and smoking pack-years. Compared with crocidolite miners and millers, Wittenoom ex-residents had the lowest rates (Incidence Rate Ratio (RR): 0.31, 95% CI: 0.15–0.67; and Mortality RR: 0.39 95% CI: 0.17–0.88). However, there were no significant differences identified between people occupationally exposed to mixed asbestos fibres (Incidence Rate Ratio (RR): 0.92, 95% CI: 0.61–1.39; and Mortality RR: 1.07 95% CI: 0.66–1.73) and Wittenoom workers.

Conclusion Mixed asbestos fibre exposure seems to be an equally potent cause of lung cancer as crocidolite after adjusting for smoking history.

Oral Presentation

Occupational Medicine (SCOM/Modernet)

0403 FINDINGS FROM THE FIRST YEAR OF MAREL: THE ITALIAN NETWORK ON WORK-RELATED DISEASES

¹Stefania Curti*, ¹Stefano Mattioli, ²Pierluigi Cocco, ³Alfonso Cristaudo, ⁴Marco dell'Omo, ⁵Giovanni Mosconi, ⁶Giuseppe Campo. ¹Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy; ²Department of Public Health, Clinical and Molecular Medicine, University of Cagliari, Cagliari, Italy; ³Unit of Occupational Medicine, University of Pisa, Pisa, Italy; ⁴Unit of Occupational and Environmental Medicine, Department of Medicine, University of Perugia, Perugia, Italy; ⁵Unit of Occupational Medicine, Azienda Ospedaliera Papa Giovanni XXIII, Bergamo, Italy; ⁶Department of Work and Environmental Medicine, Epidemiology and Hygiene, National Institute for Insurance against Accidents at Work (INAIL), Rome, Italy

10.1136/oemed-2017-104636.331

Background Detecting new disease-exposure associations is an important public health issue. We created a pilot network (MAREL - MALattie e Rischi Emergenti sul Lavoro) of occupational disease consultation centres of Italian university hospitals to which patients are referred for potentially work-related diseases.

Methods The MAREL network currently includes five occupational disease consultation centres of university hospitals located in central-northern Italy. Patients are referred to these consultation centres by their general practitioners, occupational physicians or other specialists for the investigation of the putative occupational origin of the disease. Each centre collects cases of putative occupational origin through a structured and standardised data collection form. We collect data on: diagnosis; personal habits; occupational history; exposure assessment for potentially associated risk factors; physician's opinion on the possible causal relationship between disease and occupation. Data are coded according to national and international classifications.

Results The data collection started in 2016. We collected 1516 cases of putative occupational diseases. Intervertebral lumbar disc degeneration was the most represented condition (n=170, 11.2%). Apart from musculoskeletal disorders, cases of asthma were the most frequently reported (n=59, 3.9%). About 11% of patients were construction workers. The most frequently reported exposures were: manual material handling (29.5%, out of 1811), hand-arm vibrations (13.9%), and repetitive movements of the upper limb (10.9%).

Discussion The MAREL network will be expanded to other occupational disease consultation centres in 2017 with the aim to contribute to already existing surveillance systems (i.e. MALPROF) by the detection of new and emerging occupational diseases and risks.

Poster Presentation

Disease Surveillance

0404 SURVEILLANCE OF OCCUPATIONAL EYE INJURY THROUGH EMERGENCY SERVICES: TWO-YEAR EXPERIENCES IN A MEDICAL CENTRE OF TAIWAN

¹Ting-Chia Weng*, ^{2,3}Lin Hsu, ²Chia-Chang Chuang, ^{1,3}Jung-Der Wang, ^{1,4}How-Ran Guo, ^{1,4}Yau-Chang Kuo. ¹Department of Occupational and Environmental Medicine, National Cheng Kung University Hospital, Tainan, Taiwan; ²Department of Emergency Medicine, National Cheng Kung University Hospital, Tainan, Taiwan; ³Department of Public Health, College of Medicine, National Cheng Kung University, Tainan, Taiwan; ⁴Department of Environmental and Occupational Health, National Cheng Kung University, Tainan, Taiwan

10.1136/oemed-2017-104636.332

Ocular trauma in the workplace is a worldwide cause of visual morbidity, but is largely preventable. We established a pilot surveillance system of occupational eye injuries at emergency service of National Cheng Kung University Hospital (NCKUH) from Feb 2015 to Feb 2017. During the study period, 114 events of occupational eye injuries were collected with 22 patients further hospitalised. Among them, 3 cases of severe ocular trauma were accompanied with other injuries resulting in an Injury Severity Score of more than 16. Foreign body injury (28%, n=32) and chemical burn (21%, n=24) were the most frequent eye injuries. Notably, 12 cases (10.5%) eyeball rupture were identified. The total medical costs charged through the NCKUH were about 66,000 USD for these ocular trauma patients, counting emergency and hospitalisation fees within 90 days after the first encounter. Eyeball ruptures accounted for 57.5% of the total medical charges. Only about 18% of occupational ocular trauma cases were reported to the National Labour Insurance and would usually be compensated. This study highlights the urgent needs of comprehensive compulsory regulations of recognition and report, compensation, and prevention and control of occupational eye injuries in the workplace of Taiwan.

Oral Presentation

Occupational Medicine (SCOM/Modernet)

0405 PREDICTING THE IMPACT OF THE EU VIBRATION DIRECTIVE ON THE PREVALENCE OF VIBRATION WHITE FINGER (VWF), CARPAL TUNNEL SYNDROME (CTS) AND SENSORINEURAL SYMPTOMS ACROSS EUROPE

¹S Jill Stocks*, ²Begoña Martínez-Jarreta, ³Riitta Sauni, ¹David A Berk. ¹University of Manchester, Manchester, UK; ²University of Zaragoza, Zaragoza, Spain; ³Ministry of Social Affairs and Health, Tampere, Finland

10.1136/oemed-2017-104636.333

Objectives EU directives can lend themselves to evaluation through natural experiments because of the freedom regarding their implementation within individual countries. Natural experiments may be criticised because of the lack of direct casual evidence for a relationship between the intervention and the exposure or disease outcome. Such experimental designs could be strengthened by an a priori estimate of the impact of an intervention. Here we aim to predict the impact

of EU Directive 2002/44/EC on VWF, CTS and sensorineural symptoms (HAVS).

Methods Previously we described the development of a Markov chain Monte Carlo accelerated failure time model to predict the incidence and prevalence of HAVS. The model was developed using longitudinal data from Italian workers and validated using published data for Swedish and UK workers, and compensation data from the Czech Republic. For the next step we have used the exposure data from the Eurofound European Working Conditions Survey from 2000 to 2015 and population level demographic data to predict the impact of the directive on HAVS in Europe.

Results The model predicted that a reduction in vibration exposure to 5 m/s² (i.e. complete success of the directive) would result in a reduction in lifetime prevalence of VWF of around 25% in the UK. Predictions of the variation in impact according to differing reductions in exposure and across different age groups will be presented for the UK and other countries.

Conclusion Future work will compare these estimates of the impact of the directive using routinely collected data in European countries.

Poster Presentation

Cancer

0406 ANALYSIS OF INFECTIOUS DISEASE PREVALENCE AMONG SEMICONDUCTOR MANUFACTURING WORKERS WITH NON-HODGKIN'S LYMPHOMA

Jung-min Sung*, Sang-gil Lee, Eun-A Kim. KOSHA, Ulsan, Republic of Korea

10.1136/oemed-2017-104636.334

Introduction The Occupational Safety and Health Research Institute (OSHRI) established a cohort of former and current workers in six semiconductor-manufacturing companies in South Korea, to determine the incidence of occupational cancer. This study compared the prevalence and incidence of general illnesses between patients with non-Hodgkin lymphoma (NHL) and a control group.

Research Methods After identifying 43 workers with NHL, OSHRI established a sex- and age-matched control group. The NHL cohort and control groups were compared for the prevalence of infectious diseases before and after diagnosis. The prevalence of infectious diseases was based on diagnostic data collected from National Health Insurance information. Disease names were determined by the ICD-10 disease code.

Outcomes Prior to the diagnosis of NHL, there was no significant difference in the prevalence of bacterial and viral diseases between the groups. However, following the diagnosis of NHL, the prevalence rates of viral and bacterial infections were significantly higher in the NHL group. Significant differences were found in the prevalence of herpes zoster, cytomegalovirus, and tuberculosis.

Conclusion Prior to the diagnosis of NHL, there were no significant underlying diseases in the NHL cohort group when compared to the control group. Therefore, we concluded there is no relationship between underlying infectious disease and NHL development. However, the probability of contracting opportunistic infections was higher in the NHL group