Review

Asbestos, Smoking and Lung Cancer: An Update

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Abstract: This review updates the scientific literature concerning asbestos and lung cancer, emphasizing cumulative exposure and synergism between asbestos exposure and tobacco smoke, and proposes an evidence-based and equitable approach to compensation for asbestos-related lung cancer cases. This update is based on several earlier reviews written by the second and third authors on asbestos and lung cancer since 1995. We reevaluated the peer-reviewed epidemiologic studies. In addition, selected in vivo and in vitro animal studies and molecular and cellular studies in humans were included. We conclude that the mechanism of lung cancer causation induced by the interdependent co-action of asbestos fibers and tobacco smoke at a biological level is a multistage stochastic process with both agents acting conjointly at all times. The new knowledge gained through this review provides the evidence for synergism between asbestos exposure and tobacco smoke in lung cancer causation at a biological level. The evaluated statistical data conform best to a multiplicative model for the interaction effects of asbestos and smoking on the lung cancer risk, with no requirement for asbestosis. Any asbestos exposure, even in a heavy smoker, contributes to causation. Based on this information, we propose criteria for the attribution of lung cancer to asbestos in smokers and non-smokers.

Keywords: asbestosis; carcinoma; cumulative exposure; mesothelioma; multiplicative model; pathogenesis; smoking; synergism
Some observations of the impact of acute and chronic rejection on kidney and liver transplantation

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ABSTRACT

Background Survival rates of kidney and liver transplantations have improved significantly over the last decades. Despite the progresses made especially in the 1-year graft survival and attrition rates, the developments in long-term graft survival post-transplant have not followed through.

Data and Objectives This paper reviews the published survival experiences of kidney and liver transplantation patients from the period 1982-2004 in Finland, reports some new observations derived from the re-analyses of the preceding datasets, and updates the discussion concerning the impact of acute rejections on the chronic deterioration of the grafts.

Results The half-life expectancies for renal and hepatic transplants were projected to last 15 years and 18 years, respectively. The graft survival probabilities for the liver transplant patients who had undergone an acute rejection episode were unexpectedly greater than those for their peers without such a complication. In comparison, the graft survival probabilities for the kidney transplant patients with an acute rejection were consistently smaller than for their counterparts without it.

Concluding Remarks It is tentatively hypothesized that: a successfully treated acute rejection in the liver graft may prolong its long-term survival; and, with the advent of modern treatments for the chronic kidney graft rejection, histological changes and decline in the renal transplant function are expected to reduce.

Keywords Graft survival; Kidney; Liver; Life expectancy; Modeling; Rejection; Transplantation

Article
Measuring working-life expectancies
Multistate vector regression approach vs.
prevalence-based life table method

Markku Nurminen

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In defence of score intervals for proportions and their differences
Diagnosis of epithelial mesothelioma using tree-based regression analysis and minimal panel of antibodies

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Professors Douglas W. Henderson and Sonja Klebe
PUBLISHED RESEARCH REPORTS

Työllisen ajan odotteet Suomessa 2000-luvulla
(Working-life expectancies in Finland in the 2000s)
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Työllisen ajan odotteet koulutuksen mukaan Suomessa 2000-luvulla  
(Working-life expectancies according to education in the 2000s)  
Noora Järnefelt ja Markku Nurminen

Working-life expectancy in Finland: trends and differentials 2000-2015: A multistate regression modeling approach

Markku Nurminen

Finnish Centre for Pensions, Reports 03/2012 [100 p]. Helsinki: Finnish Centre for Pensions, 2012
Evaluations BY DR MARKKU NURMINEN for scientific institutes and journals
PLOS ONE, November 2016

A review of the article by article by Anna But et al, "Assessing the effect of treatment duration on the association between anti-diabetic medication and cancer risk."
Institute of Statistical Science, Academica Sinica, Taipei, Taiwan, Republic of China

An evaluation of the scholarly achievements of a candidate nominated by the Advisory Board Members for the Review Committee for an appointment as a Distinguished Research Fellow; on invitation by Professor Ker-Chau Li, Distinguished Research Fellow and Director, Institute of Statistical Science, Academia Sinica, Taipei, Taiwan, the Republic of China. Evaluation sent on 16 October 2011.
A review of a manuscript entitled "Exact Bayesian inference on 2 x 2 tables with independent or correlated priors" submitted for consideration for an original publication in Biometrics; on invitation by Susanne May, Associate Editor of Biometrics, Associate Professor, Department of Biostatistics, School of Public Health, University of Washington, Seattle, WA, USA. Review sent on 21 January 2011.