One Health interest...

Comments on Abstract " Professional exposure to goats increases the risk of pneumonic-type lung adenocarcinoma: Results of the IFCT-0504-Epidemio study " by Magnin-Lutringer et al, presented at the European Respiratory Society (ERS) Annual Congress meeting in the Netherlands, September 25, 2011

https://www.ersnetsecure.org/public/prg_congres.abstract?ww_i_presentation=53083:

Brian Henderson MD[1]

This is an interesting clinical series of lung cancers collected at multiple hospitals over a period of several years. Reportedly the same structured 356-item questionnaire was used at each regional university hospital. The series of lung cancer cases was divided in to two major groups, a " case" group defined by histological or cytologically-proven lung adenocarcinoma with predominant lepidic growth(P-ADC) as well as some apparently related clinical lung cancer cases, and a "control" group of lung cancer cases without the adenocarcinomas as defined in the case group and without cases of non-bronchioalveolar non-small cell lung cancer. The two clinical groups of lung cancer were not matched by age, gender or smoking status. A total of 42 patients were included in the "case" group and 126 in the "control" group. In a multivariate analysis the "case" group was reported to be significantly($p = <0.05$) more likely to be female, non-smoking, have a personal history of cancer, and a professional exposure to goats. The odds ratios for these variables ranged from 3.23 – 5.09 with wide confidence intervals given the relatively small sample sizes involved. The odds ratio associated with a profession exposure to goats was the highest at 5.09 (C.I. 95% 1.05 – 24.69). The authors emphasize the increase risk associated with professional exposure to goats among those lung cancers identified as P-ADC.

Given the small sample size of the cases of P-ADC, the multiple clinical centers and physician or other health care interviewers involved, and the lack of clarity of the definition of professional exposure to goats, any conclusions drawn from this study must be considered very preliminary and hypothesis generating only. As the authors state in their conclusion further epidemiological studies are needed to further explore these observations. Such studies should be rigorously designed with careful attention to definition of exposure variables and to efforts to minimize the difficult problems of recall bias and variation in interviewer technique and interpretation in a multi-center clinical study. While other types of lung cancer might be convenient controls in such a hypothesis generating clinical study, greater consideration to the most suitable design of future epidemiological studies of this nature would require more appropriate controls with suitable attention to matching by variables such as age, gender and, in the case of lung cancer, smoking history.

[1]**Brian Henderson, MD** is Dean of the Keck School of Medicine, University of Southern California and the Kenneth T. Norris Jr Chair in Cancer Prevention, Los Angeles CA. **Dr. Henderson** is an internationally known and pre-eminent authority on the epidemiology of cancer, particularly the interplay of genetic and environmental factors in the etiology of cancer, and has been recognized by many awards for his work in this field. He also a medical virologist, and has worked on the epidemiology of arthropod-borne viruses and Epstein-Barr virus related cancers in Africa.

One Health Initiative team member **Thomas P. Monath, MD** requested this commentary from **Dr. Henderson**.