however, the role of low dose radiation exposure in the aetiology of lymphoma is still uncertain. We investigated the role of occupational exposure to internal and external ionising radiation in the aetiology of lymphoma and its major subtypes.

Methods Between 1998 and 2004, 2348 cases and 2465 controls from six different European countries participated in the multicentre EpiLymph case-control study. A detailed occupational history was collected by questionnaire in all participants a coded using the ISCO68 occupational and NACE industrial coding systems. Based on the same coding systems, we developed a Job Exposure Matrix (JEM) to assess probability and intensity of exposure to internal and external ionising radiation. We used unconditional logistic regression to calculate Odds Ratios and their 95% Confidence Intervals for lymphoma and its major subtypes associated with the ionising radiation exposure metrics, adjusting by age, gender, education and country.

Results Risk of lymphoma overall did not show an association with exposure to radiation either internal or external. Risk of Diffuse Large B-Cell Lymphoma (DLBCL) was elevated and did show an upward trend with intensity of exposure to external radiation (Low Intensity OR=2.1, 95%CI=0.97–4.46 and High Intensity OR=2.5, 95%CI=1.21–5.08). We did not observe any risk increase associated with internal exposure to ionising radiation.

Conclusions Our results provide limited support to the relation between external sources of ionising radiation and risk of DLBCL. We cannot exclude the possibility of bias due to the multiple comparisons we made.

Poster Presentation Cancer

0485 ENVIRONMENTAL EXPOSURE TO RADIOFREQUENCY AND RISK OF LYMPHOMA SUBTYPES

¹P Cocco*, ¹G Satta, ²A Salis, ²L Saba, ¹S Sanna, ³E Angelucci, ¹A Gabbas, ³F Culurgioni, ³P Pili, ³E Mura, ⁴M Cappai, ¹Maris G Ennas. ¹University of Cagliari, Cagliari, Italy; ²EPICOP, Cagliari, Italy; ³A. Businco Oncology Hospital, Cagliari, Italy; ⁴Regional Agency for Environmental Protection of Sardinia (ARPAS), Cagliari, Italy

10.1136/oemed-2017-104636.400

Introduction Conflicting results have been published on the association between occupational and environmental exposure to radiofrequency (RF) and cancer risk. Information bias might have played a role in some instances.

Methods We geocoded fixed radio-tv transmitters and mobile phone base stations, as well as the residence of 451 cases and 603 controls who participated in a case-control study on the aetiology of lymphoma in Sardinia, Italy. A detailed residential history was available for all cases and controls, including the perceived distance from fixed radio-tv transmitters and mobile phone base stations. We applied the models used by the Regional Agency for Environmental Protection, and conducted RF measurements to estimate the RF field at the door of study subjects. We used unconditional logistic regression to calculate Odds Ratios and their 95% confidence intervals for lymphoma and its major subtypes associated with the RF exposure metrics, adjusting by age, gender, and education.

Results Based on questionnaire data, risk of lymphoma overall was elevated for a cumulative exposure to fixed radio-tv transmitters above the median (OR=2.7, 95% CI=1.5–4.6). Risk was likewise elevated for all lymphoma subtypes. With reference to mobile phone base stations, we only observed a non significant excess risk of diffuse large B-cell lymphoma (DLBCL, OR=2.5, 95% CI=0.7–8.3). Such associations disappeared when we considered exposure based on the models, or the measurements. By comparing the reported distance to the geocoded data, we found out that the cases tended to underestimate the distance from the source of RF emission.

Conclusions Our results do not support the hypothesis of a link between environmental exposure to RF and risk of lymphoma subtypes.

Conflict of Interest statement: None of the coauthors declare any conflict of interest related to the matters discussed in this paper.

Invited

Policy/Impact

0489 INVITED KEYNOTE: DOES EPIDEMIOLOGY COUNT?

Anthony Newman Taylor. Imperial College, London, UK

10.1136/oemed-2017-104636.401

Epidemiology is largely a practical discipline whose findings are used to inform health policy and clinical practice. Occupational epidemiology should address important and tractable questions, generating new information with the potential to influence decisions, even where policy makers encounter strong competing opinions and interests. Priorities for research should include:

1. Exposures in the workplace which may contribute importantly to the burden of illness at population level, but where uncertainty remains about causation or levels of risk (e.g. shift work and breast cancer, chronic kidney disease in sugar cane workers in Central America and parts of Asia).

2. Exposures which although not widespread, could carry a high attributable risk in individual workers. A past example would be haemangiosarcoma of the liver in VCM workers, a contemporary example hypersensitivity pneumonitis in those exposed to metal working fluids (MWF), probably attributable to Mycobacterial infection of MWF.

3. Studies to evaluate the effectiveness of interventions. Such research, while difficult and expensive, can provide critical evidence about both causation and the process of prevention. The challenge is to apply limited resources most efficiently through optimal choice of study questions and methods (randomised controlled trials are not always the best approach).

4. Descriptive epidemiology, both to identify possible unrecognised hazards (including from new technologies), and to check that known hazards are being adequately controlled.

At the same time, it is important to recognise where further research is not needed. In developing countries, studies on affordable methods of reducing hazardous exposures may be more useful than investigations to confirm risks that are already well known.