

36 FORMALDEHYDE AND CANCER RISK – AN UPDATED QUANTITATIVE REVIEW OF COHORT STUDIESDamien McElvenny, Ben Armstrong *LSHTM, London, UK*

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Objectives In 2006, IARC concluded that the evidence for carcinogenicity in humans was adequate for nasopharyngeal cancer. In the most recent meta-, a non-significantly raised relative risk was determined for nasopharyngeal cancer (RR=1.33; 95% CI 0.61 to 2.53). The authors excluded the results of three cohort studies, because no corresponding expected numbers of cases were presented. Our aim was to carry out an updated meta-analysis of formaldehyde and cancer of the nasopharynx, including studies in the meta-analysis where no expected cases were explicitly presented.

Methods Relevant studies were identified using searches of electronic databases and from previous meta-analyses. Where not presented explicitly, an expected number of cases of nasopharyngeal cancer was determined indirectly using the ratio of lung to nasopharyngeal cancers applied to the expected number of cases of lung cancer. Meta-analyses were carried out on the original scale because the log of zero is undefined.

Results A total of 10 cohort studies were identified for inclusion. The random effects meta-RR for nasopharyngeal cancer for cohort studies was 0.91 (95% CI 0.23 to 1.58) based on 10 studies containing 13 cases. Eight of these cases came from the NCI cohort.

Conclusions Even including the NCI cohort, in which a large proportion of the cases have short latency, the results of this meta-analysis suggest that there is no excess of nasopharyngeal cancer in relation to formaldehyde among cohort studies. Further work is required to clarify the findings from the studies other than cohort studies in order to further clarify the IARC findings.