

CANCER INCIDENCE AND DIOXIN EXPOSURE IN THE SEVESO COHORT: AN UPDATE OF THE CANCER INCIDENCE STUDY UP TO 20 YEARS AFTER THE ACCIDENT (1977-1996)

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Objectives: The 1976 Seveso, accident caused the contamination of a large inhabited area by 2,3,7,8-tetrachlorodibenzodioxin (TCDD). Three zones with decreasing soil TCDD levels were delimited: A (highest), B (high) and R (low and patchy). Persons ever living in the three contaminated zones and in a surrounding non-contaminated area were followed-up, blind of their exposure status, to evaluate long-term health consequences through mortality and cancer incidence studies. The main finding of the mortality study (1976-2001) was an increase in lymphatic and hematopoietic cancers among both genders in the most polluted zones (A and B). We report here preliminary results of the cancer incidence study updated to 1996. **Methods:** Incident cancer cases were ascertained through the hospital discharge registration system of the Lombardy region, where over 95% of the cohort was still resident in 1986. For each case all relevant medical records were reviewed (over 3000/year). Relative risks (RR) and 95% Confidence Intervals (CI) were estimated with Poisson regression techniques controlling for age, gender and calendar period using the surrounding non contaminated area as reference. Data collection and revision is in progress and has been completed for 96% of the cohort. **Results:** A preliminary analysis has been conducted on subjects aged 0-74 years residing in the area at the time of the accident. Cases ascertained through death certificate only (11%) were included in the analysis. The percentage of histological confirmed diagnosis was 76%. In zone A, all cancer incidence did not differ from expectation; a twofold increased risk for breast cancer was observed (7 cases, 95%CI 0.6-6.2) and 4 lymphohemopoietic cancers yielded a RR of 1.4 (95%CI 0.3-5.4). In zone B, the risk for all cancers was 20% higher than expected (RR=1.2;95%CI 1.0-1.4) and a twofold increased risk in lymphohemopoietic cancers was observed (RR=1.9; 95%CI 1.2-3.0). Other increased risks refer to rectal and biliary tract cancers. Nine soft tissue sarcomas (RR= 1.6; 95%CI 0.5-5.0) were observed in the least contaminated area (zone R). **Conclusion:** The preliminary results of the cancer incidence study are coherent with the increased risk for lymphatic and hemopoietic cancers observed in the mortality follow-up. Further analyses are in progress.

Key words: TCDD; cancer; Seveso