

It was concluded that ovarian x-radiation, even in small doses, contributes somewhat to the risk of chromosome defects in subsequent pregnancies.

FOURTH SESSION (Chairman: PROFESSOR A. L. COCHRANE)

Association between Malignant Disease in Children and Maternal Virus Infections during Pregnancy. J. F. BITHELL, G. J. DRAPER, and P. D. GORBACH (*Department of Social Medicine, University of Oxford*)

An early report from the Oxford Survey of Childhood Cancers suggested the possibility that virus infections during pregnancy might be associated with childhood cancers. A recent paper by Fedrick and Alberman has shown a striking relationship between influenza during pregnancy and some forms of malignant disease in children born of these pregnancies.

Data from the Oxford Survey now include interviews with more than 9,000 mothers of children dying from malignant disease and a similar number of mothers of matched controls. These include a substantial number of reports of virus diseases during pregnancy, and there are significant case excesses for influenza (98 : 64) and chicken-pox (7 : 0).

The trimesters in which the case mothers reported influenza do not differ significantly from those in which the control mothers did so. When the pregnancies were classified by whether or not they overlapped known influenza epidemics, it was found that 26 cases and 11 controls overlapped that of 1957-58. The differences in the case-control ratios were not, however, significant.

Examination of the diagnosis of the seven cases in which the mother had had chicken-pox revealed that there were three cases of lymphatic leukaemia, three of medulloblastoma, and one of Wilms' tumour.

Monthly birth cohorts were analysed for children developing neoplasms of the lymphatic and haematopoietic tissues, and an attempt was made to relate the rates to the monthly incidence of influenza in the population, as measured by mortality and by sickness absence claims from all causes (claims due to influenza specifically not being available on a monthly basis). A model was used which should detect effects due to risk in different months of pregnancy. No significant results were obtained, and it is suggested that the association reported by Fedrick and Alberman was largely fortuitous and due to the fact that the figures were grossed into annual rates.

Fedrick, J., and Alberman, E. D. (1972). *Brit. med. J.*, 2, 485.

Preliminary Report on Research into Behavioural Factors Influencing the Risk from Coronary Heart Disease. L. BARIC and D. WILKIN (*Department of Social and Preventive Medicine, University of Manchester*)

The study examined three risk factors related to coronary heart disease—cigarette smoking, obesity, and lack of exercise. It included two population surveys, one exploratory survey of a small number of general practitioners and a survey of all GPs in Salford, and an intervention study. The main aims of the study were to examine local health authority health check-ups, opinions of GPs and the general public about risk factors, and the

role of the GP in the dissemination of information and behavioural change.

It was found that a large proportion of GPs rate the risk factors important in relation to coronary heart disease, and that the general population perceive these risk factors as a danger to health in a generalized manner. However, it was found that there was a large discrepancy between the proportion of GPs rating them important in relation to coronary heart disease and the proportion of the population associating them with heart disease.

GPs were aware that many of their patients did not know of the connection of the risk factors with coronary heart disease, and considered it their own responsibility to inform them. The findings relating to source of information concerning risk factors indicate that GPs are not at present doing much to remedy the situation.

A number of follow-up studies are being planned to examine various aspects of the problems raised in this study.

Sudden Death and Water Quality. MARGARET CRAWFORD and D. G. CLAYTON (*Medical Research Council Social Medicine Unit, London School of Hygiene and Tropical Medicine*)

This investigation is based on all deaths in 1970 of persons aged 30 to 59 in 12 towns of England and Wales, six with hard and six with soft drinking water. Information on terminal episode and previous medical and residential history was obtained from the certifying doctors and coroners for all deaths certified to cardiovascular disease.

The death rates for cardiovascular disease and ischaemic heart disease were 50% higher in the soft water towns. The proportion of ischaemic heart disease deaths in men which were 'sudden' (terminal episode less than 1 hour) were 40% in the soft and 32% in the hard water towns; this difference is statistically significant ($P < 0.005$). Deaths of persons with a history of a previous infarction were more common in the hard water towns, and deaths in the first episode of the disease were slightly more common in the soft water towns. The greatest difference between the two groups of towns was in the 'sudden' deaths in the first episode, the soft : hard ratio being 2.64 : 1. This group forms one-fifth or less of the deaths but accounts for nearly half of the difference in the rates. The 'sudden' deaths do not explain all the difference in death rates between the soft and the hard water towns.

The 1952 Fog Cohort Study. R. E. WALLER, A. G. F. BROOKS, and M. W. ADLER (*MRC Air Pollution Unit, St. Bartholomew's Hospital Medical School, London, and Department of Clinical Epidemiology and Social Medicine, St. Thomas's Hospital Medical School, London*)

The results of several studies carried out in Great Britain during recent years have suggested that exposure when very young to urban air pollution may have a lasting effect on the prevalence of respiratory disease in childhood and perhaps in later life. Such effects may result either from extended exposure to moderate levels of pollution or from occasional exposures to