CHROMOSOMAL INSTABILITY AND MALIGNANT DISEASE IN PATIENTS WITH POROKERATOSIS OF MIBELLI. A. M. R. TAYLOR, D. G. HARNDEN and E. A. FAIRBURN. Department of Cancer Studies, the Medical School, Birmingham.

Porokeratosis of Mibelli is a rare, genetically determined disorder of the skin. Seventeen cases of carcinoma on the site of the lesion have been described (Cort and Abdel-Aziz, *Br. J. Plastic Surg.*, 1972, **25**, 310; Guss, Osbourn and Lutzner, *Arch. Derm.* 1971, **104**, 336; Bellafiore, *Annall ital. Derm. Clin. Spec.*, 1971, **24**, 57). Skin biopsies were obtained from 4 patients, 2 of whom had carcinoma. Eight out of 19 lines of fibroblasts from affected areas, and one line from a normal area of skin, showed chromosomally abnormal clones of cells. No chromosomal aberrations were common to all lines and no unstable rearrangements were present. In view of the instances of association between chromosomal instability and malignant disease (German, *Progress in Medical Genetics*, **8**, ch. 2), it is possible that this genetic instability may play a part in the induction of malignancy in porokeratotic cells.

PART II ENVIRONMENTAL FACTORS IN SOME COMMON CANCERS

ABSTRACTS OF SYMPOSIUM PAPERS

Thursday 5 April

POSSIBLE VIRAL AETIOLOGY OF HUMAN BREAST CANCER. D. H. MOORE. Institute for Medical Research, Camden, N.J., U.S.A.

Direct demonstration of a human mammary tumour virus (HuMTV) cannot be made by the inoculation–breast cancer sequence, as has been done with the murine virus (MuMTV). By indirect procedures evidence has been cited for the existence of a HuMTV. The indirect procedures are: visualization of MTV virions in the electron microscope (Moore, *Nature, Lond.*, 1971, **229**, 611; Sarker and Moore, *Cancer Res.*, 1972, **33**, 186) neutralization of MuMTV infectivity by human sera (Charney and Moore, *Nature, Lond.*, 1971, **229**, 627), presence of 70S RNA and reverse transcriptase in human milk particles (Schlom, Spiegelman and Moore, *Nature, Lond.*, 1971, **231**, 97; *Science, N.Y.*, 1972, **175**, 542; *J. natn. Cancer Inst.*, 1972, **48**, 1197) and human mouse particle nucleic acid hybridization (Axel, Gulati and Spiegelman, *Proc. natn. Acad. Sci.*, 1972, **69**, 3133). Well preserved and unquestionable MTV virions have been found in only a few of the total number of milks examined. Mouse milk, in strains where the mammary tumour incidence approaches 100%, contains 10^{11-12} virus particles/ml. The concentration in any human milk is relatively very low. The determination of the actual quantity is complicated by the nature of human milk.

In contrast to mouse milk or cow's milk, human milk contains factor(s) which degrade MuMTV virions, reverse transcriptase, and bioactivity when the mouse virus is mixed with human milk (Sarker *et al.*, *Cancer Res.*, 1973, **33**, 186). The cream fraction of human milk is more destructive to the virions, the reverse transcriptase and the infectivity of MuMTV than the skim milk fraction. These virulytic factors in human milk add to the difficulties of isolating and studying the virus-like particles. There is a marked difference in the amount of reverse transcriptase in milk taken first (foremilk) and that taken after the breast has been emptied (hind-milk). Many of the " fore-milks " showed little or no 70S RNA nor reverse transcriptase activity whereas the corresponding " hind-milks " contained very significant amounts, indicating that deterioration was taking place while the milk was stored in the breast.

The results of tests on 100 human sera indicated that 25% have a neutralizing effect on MuMTV infectivity. Virus from RIII milk was used in the neutralization tests and the assays were made in C57BL mice, 75% of which are normally infected by milk dilutions of 10^{-3}–10^{-4}. The neutralization effect was