by immunization with sedimentable materials inactivated with formalin. Further data will be presented on the effect of immunization on other parameters of infection such as viraemia and changes in antibody titres during the course of the disease.

SURFACE IMMUNOLOGICAL MARKERS IN ACUTE MYELOBLASTIC LEUKAEMIA. G. M. TAYLOR, C. B. FREEMAN, J. ESCUDER and R. HARRIS, Department of Medical Genetics, St Mary's Hospital, Manchester.

Before treatment, peripheral blood leucocytes from patients with acute myeloblastic leukaemia (AML) form few T and B cell rosettes compared with normal individuals, and AML blasts do not themselves form rosettes, unlike a minority of cases of acute lymphoblastic leukaemia in which T rosette forming cells are known to occur. A large but variable proportion of peripheral leucocytes from patients with untreated AML possess surface immunoglobulin detected by both direct and indirect immunofluorescence. The pattern of fluorescent staining on AML blasts differs from that seen on CLL cells, and also in contrast *in vitro* with anti-human immunoglobulin serum. Surface immunoglobulin on AML blasts may represent tumour associated antibody or immune complex.

Our results suggest that the proportion of rosette forming cells, and of cells with surface immunoglobulin can be used as a diagnostic aid for patients with AML.

TISSUE CULTURE OF MALIGNANT EFFUSIONS AND THEIR USEFULNESS AS TARGET CELLS IN CYTOTOXICITY CELLS. R. H. WHITEHEAD, University Department of Surgery, Welsh National School of Medicine, Cardiff.

Breast tumours pose special problems for those seeking to study the immune responsiveness of patients to their tumours. It is difficult, if not impossible, to culture breast cancer cells *in vitro*. This has led previous workers studying lymphocyte cytotoxicity to use cells derived from effusions from patients with advanced breast cancer. This was done because of the belief that pleural effusion cells were free of fibroblasts and were most probably tumour cells.

Comparative cytotoxicity tests have been performed using cells derived from pleural effusions from breast cancer patients and cells derived from ascites from colon carcinoma patients. Cells derived from a malignant melanoma have also been used as target cells. Lymphocytes from patients with breast cancer, colon cancer and melanoma have been tested against their cells. These tests failed to show any tumour specific cytotoxicity (except in the case of melanoma), suggesting that the cells derived from these effusions are of normal origin.

CELL MEDIATED IMMUNOREACTIVITY IN HUMAN LUNG NEOPLASIA. B. M. VOSE and M. MOORE, Immunology Department, Paterson Laboratories, Manchester.

The relative susceptibilities of various tissue culture cells derived principally from malignant, normal and foetal lung tissues, to cytolysis by leucocytes from patients with different histological types of lung cancer were investigated using an *in vitro* microcytotoxicity assay for cell mediated immunity.

Target cells derived from 12- to 17-week old embryo lungs and from pulmonary tumours of different histological types were most susceptible to the cytotoxic action of lung cancer patients' leucocytes, while a lower but significant frequency of positive reactions has also been observed against cells originating from non-malignant pulmonary tissue.

It is concluded that lung tumour cells may express tumour associated antigens but their nature and specificity remain to be elucidated.

AN ATTEMPT TO IDENTIFY STIMULATORY SUBSTANCES INTERFERING WITH A TWO STAGE MACROPHAGE MIGRATION INHIBITION (MMI) ASSAY AND TO ASSESS IMMUNOCOMPETENCE. J. G. AASKOV and H. M. ANTHONY, Department of Experimental Pathology and Cancer Research, University of Leeds.

An improved two-stage MMI test has been developed to measure the primary