By complement fixation, murine oncornavirus group specific antigen was identified in crude extracts of MSV-FBJ sarcomata together with soluble antigens of type specificity.

The significance of these antigens in relation to those previously defined for "wild" type murine leukaemias will be discussed.

HOST IMMUNE RESPONSES IN B.C.G. THERAPY OF A RAT OSTEOSARCOMA, N. Lawrence and M. Moore, Charles Salt Research Centre, The Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry.

The growth of syngeneic grafts of tumour cells is suppressed when cells are mixed with B.C.G. before inoculation, or if clinically established nodules are infiltrated with microorganisms. Theoretically, three types of processes operating individually or in combination might account for this phenomenon: (i) non-immune effects; (ii) B.C.G. immunity and (iii) tumour immunity.

In experiments performed with an immunogenic, chemically induced osteosarcoma, growth inhibition by B.C.G. was less effective in rats immunosuppressed by thymectomy and irradiation than in their immunocompetent counterparts. In the study of the respective roles of immunity to tumour and B.C.G., the differential radiosensitivity of primary and secondary immunity permitted the evaluation of the effect of immunity to one antigen on a second antigen, to which primary immunity had been prevented by interim irradiation.

Evidence will be presented to show that the host response to B.C.G. is essentially local and immunological. Tumour outgrowth from B.C.G. tumour cell inocula occurred with greater frequency in rats prevented from responding to tumour antigen than in normal recipients, suggesting that while local immune reactivity to B.C.G. is a necessary component of successful tumour growth inhibition, it is not invariably sufficient.

TUMOUR THERAPY IN DOGS USING B.C.G., L. N. Owen and D. E. Bostock, Department of Animal Pathology, School of Veterinary Medicine, University of Cambridge.

Experimental dogs have been injected intradermally, intravenously, intrathoracically and intraperitoneally with percutaneous B.C.G. vaccine (Glaxo).

Following i.v. injection a patchy interstitial pneumonia has been found with small granulomata in lungs and liver. There is lymph node hyperplasia. A small and transient rise in temperature occurs.

Dogs with osteosarcoma treated surgically or by x-irradiation have been injected i.v. with B.C.G. alone or B.C.G. and autologous tumour cells. Results are encouraging. Dogs with lymphosarcoma treated by chemotherapy and followed by intravenous B.C.G. alone have not responded well.

Two dogs, one lymphosarcoma and one osteosarcoma, had anaphylactic shock after the second B.C.G. injection and an antihistamine drug is now routinely given before the B.C.G.

IMMUNOLOGICAL MECHANISMS IN CONTROL OF MALIGNANT DISEASE, C. Bone and R. S. Camplejohn, Departments of Surgery and Pathology, University of Newcastle upon Tyne.

Cellular immune mechanisms have often been implicated as important factors in the restriction and control of neoplastic proliferation. A study was planned to investigate the relationship between cellular immunity, the rate of malignant cell proliferation and prognosis in 40 patients with carcinoma of the rectum.

Cellular immunity was measured by assessing the patients' delayed hypersensitivity responses to 2–4 dinitrochlorobenzene (DNCB). The proliferation rates of the rectal carcinomata and the mucosa from which they arose were measured using an *in vivo* stathmokinetic technique (Refsum and Berdal, *Tidskr. norske Laegeforen.*, 1968, **126.** 1224).

Each tumour was staged according to its size and evidence of lymphatic involvement or metastases. The patients' clinical progress was followed.

It was found that there was highly significant ($P > 0{\cdot}001$) relationship between competent cellular immunity and favourable prognosis. It was also found that the proliferation rate of the rectal carcinomata was only half that of the mucosa from which they arose and growth was due to a diminished cell loss.