ment of Anatomy, Birmingham University Medical School.

We have previously reported (Whur *et al.*, *Br. J. Cancer*, 1973, **28**, 417) that intraperitoneal injections of soybean trypsin inhibitor into tumour bearing mice reduced the number of tumour cells recoverable in the ascitic fluid by up to 92%, and tentatively proposed on the basis of scanning E.M. observations that this reduction was attributable to large numbers of tumour cells adhering to the peritoneum. We have traced the fate of radiolabelled Ehrlich ascites tumour cells in autoradiographs of sections of the peritoneum and of cells from the ascitic fluid from trypsin inhibitor treated and untreated mice.

Our results indicate that cells on the peritoneum of treated mice, previously postulated to be tumour cells, are in fact of host origin. The disappearance of tumour cells from ascitic fluid of trypsin inhibitor treated mice is probably attributable to an enhanced inflammatory response in these animals.

GROWTH OF A CANINE SOLID MAMMARY CARCINOMA *IN VITRO* AND IN Nu MICE. L. N. OWEN and D. R. MORGAN, Department of Clinical Veterinary Medicine, University of Cambridge.

The biological behaviour of spontaneous anaplastic or solid carcinoma of the mammary gland in the dog is similar to carcinoma of the breast in women.

A 14-year old cross-bred terrier bitch developed rapidly growing and infiltrating solid carcinomata in the pelvic mammary glands on both sides. Following euthenasia, metastatic tumours in the lungs were made into a cell suspension and cultured in TC 199 containing 20% FCS. Better growth occurred following transfer to RPMI medium + 30% FCS or a very complex medium containing glutathione, cortisol and insulin. The culture has now reached its 40th passage with an approximate doubling time of 5 days.

Cells from the 30th passage were injected subcutaneously into a *Nude* mouse and within 22 days palpable tumours appeared. The histological diagnosis was solid carcinoma of similar appearance to the original primary and metastatic tumours in the dog. Tumour cells grown in tissue culture have been injected into foetal dogs and newborn puppies immunosuppressed with antilymphocyte serum.

GROWTH CHARACTERISTICS OF A HUMAN BLADDER TUMOUR SUBCUTANEOUSLY IMPLANTED IN IMMUNE DEFICIENT MICE. C. R. FRANKS, Imperial Cancer Research Fund Breast Unit, Guy's Hospital, London, D. R. TURNER, Department of Pathology, Guy's Hospital Medical School, London, and D. BISHOP and F. T. PERKINS, National Institute of Biological Standards and Control, London.

In previous studies (Franks *et al.*, *Nature, Lond.*, 1973, **243**, 91 and *Proc. R. Soc. Med.* (in press) 1974) it has been shown that human tumours can be grown by subcutaneous implantation in immune deficient mice. Growth has been assessed by serial measurements of the vertical and transverse diameters of the palpable tumour, and viability confirmed retrospectively at autopsy.

In this study, a papillary cell carcinoma of the human bladder on its second passage, 117 days after removal from the patient, was subcutaneously implanted in 5 mice. During the 70-day experimental period, needle biopsy was performed under anaesthesia at 14-day intervals using a disposable Menghini biopsy needle. The transverse and vertical diameters of the tumours were also measured using Vernier calipers.

The results show that between Day + 20 and Day + 25 there is a critical period during which the implanted tumours appear to undergo a process of selection, following which there is either an active increase in size or regression.

AGGREGATION KINETICS OF NORMAL AND TRANSFORMED BHK 21 FIBROBLASTS USING A PARTICLE COUNTER COUPLED WITH A CHANNEL ANALYSER. P. WHUR and H. KOPPEL, Cell Biology Unit, Marie Curie Memorial Foundation, Oxted.

We have examined cell aggregation in shaking suspensions using a Coulter model Fn counter coupled with a P64 channel analyser. After calibration this apparatus is used to detect the number of cells present in aggregates up to a maximum size of about 50 cells, and thus to calculate the net redistribution of cells between aggregates as aggregation progresses.