

site, which showed some resemblance to those described in both natural and experimental cases of lumpy skin disease<sup>1-3</sup>.

An excised nodule from an experimentally infected calf was used for the inoculation of monolayers of bovine testis cells. Some cytopathic changes were observed already at the first passage, but they were much more marked at the second passage, and consisted of intranuclear inclusions and the formation of large syncytia. The syncytia covered the whole monolayer in a few days and led to complete destruction of the cell sheet. Similar changes were observed in cultures of lamb testis cells. The time of appearance and the evolution depended upon the cell type and the age of the monolayer at the time of inoculation.

The tissue culture-passaged virus was inoculated intradermally into a one-month-old calf, which developed a necrotic lesion about 5 cm. in diameter at the site of inoculation. Rabbits and guinea pigs, inoculated by scarification of the skin with the tissue culture-passaged virus, showed a marked local reaction after a few days.

The agent we isolated shows characteristics somewhat intermediary between those of the Neethling and Allerton types of viruses recovered from cases of lumpy skin disease by Alexander *et al.*<sup>2</sup> in South Africa and by Prydie and Coackley<sup>4</sup> in Kenya. It produces cytopathic changes closely resembling those produced by the Allerton type, but the reactions observed in experimentally infected bovines are similar to those induced by the Neethling type. On the other hand, the clinical symptoms in the natural cases are milder and somewhat different from those commonly described in other African countries.

Further research is in progress and a detailed report of the experiments will be published elsewhere.

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<sup>2</sup> Alexander, R. A., Plowright, W., and Haig, D. A., *Bull. Epiz. Dis. Afr.*, **5**, 489 (1957).

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### Induction of a Chorion-epitheliomatous Tumour in the Rat

CHORION-EPITHELIOMA of the uterus is a relatively rare tumour with many interesting features. It occurs only during or after pregnancy, and invasion and metastasis only take place *post-partum* or *post-abortionum*. Spontaneous regressions occur in a small but significant number of cases<sup>1</sup>. It is the only known instance of naturally occurring tumour homograft<sup>2</sup>. A response to oestrogen therapy has been recorded<sup>3</sup> and remissions with folic acid antagonists have been reported<sup>4</sup>.

The experimental induction of this tumour in laboratory animals would be of great interest. To our knowledge there are no records in the literature

of spontaneous or induced chorion-epitheliomas in rodents, though Fischer and Kuehl<sup>5</sup> mention chorion-epitheliomatous structures in the ovaries of guinea pigs.

A tumour of the uterus in the pregnant rat has been induced in the following manner. A rat foetus was removed after 2 weeks gestation by Caesarean section, the placenta being left *in situ*. Benzpyrene powder was dusted into the gestational sac and the uterus then closed. After 4 months, vaginal bleeding was noted and exploratory laparotomy revealed the presence of enlarged cystic ovaries and thickened uterine horns containing haemorrhagic fluid. Five months after the application of benzpyrene, a large tumour about 40 mm. × 30 mm. was palpated in the abdomen and the animal was killed. At autopsy a large, white, firm, nodular tumour measuring 60 mm. was seen in the uterine horn. There were numerous secondary deposits in the abdominal cavity. In the lungs there were pneumonic patches but no secondary deposits. Histologically, the tumour was a highly anaplastic growth having both sarcomatous and decidual elements. Many mitoses were present. This tumour was transplantable with a 100 per cent yield on subcutaneous passage and kills the host in 7-10 days.

The Asheim-Zondek test was negative—but it was equally negative with urine from normal pregnant rats. Animals bearing intrauterine transplant tumours or very large subcutaneous growths have haemorrhagic or lutein cysts in the ovary.

The action of folic acid antagonists on this tumour is being studied. Preliminary investigations have shown that it is sensitive to 'Methotrexate'<sup>6</sup> if the drug is given in high doses. An attempt is also being made to determine the sex of the tumour cells.

Twenty-five rats were similarly treated with benzpyrene and it appears that tumours are developing in two more animals.

A detailed report on this work will follow shortly. I am indebted to Dr. S. S. Epstein for helpful discussion and criticism, and to Dr. C. P. Cherry for histological examinations.

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### Presence of Chicken Tumour Virus in the Sarcoma of the Adult Rat inoculated after Birth with Rous Sarcoma Tissue

THE heterotransplantation of Rous sarcoma to newborn rats results in lethal haemorrhagic disease occurring in these animals<sup>1-3</sup>. Svet-Moldavsky<sup>2</sup> succeeded in determining the infectious virus in haemorrhagic cysts, while Zilber and Kryukova<sup>3</sup> and Kryukova<sup>4</sup> had negative results. In our experiments, the virus