

a reproducible way if the diagnostic criteria listed are strictly adhered to. While the WHO classification of lung tumours, like any other, is concerned with names, it is important to remember that the name given to a tumour is of less importance than its safe recognition and the understanding of the biological implications of that name.

'Epidermoid carcinomas' are defined as 'tumours with keratinization or intercellular bridges'. This is a precise, but narrow delimitation, and some authorities would like to see tumours with a more or less 'transitional cell epithelium' included. 'Spindle-cell carcinomas' and 'carcinosarcomas' pose similar problems.

The term 'small cell anaplastic carcinoma' is used to include a number of subtypes (fusiform cell type, polygonal cell type, lymphocyte-like type or oat-cell type, and others) whereas some pathologists are inclined to regard the first two of these as undifferentiated epidermoid carcinomas.

The group of 'large cell carcinomas', defined as 'tumours composed of large cells without evidence of epidermization or formation of gland-like structures', embraces a number of different entities, many of which have been referred to as 'carcinoma solidum' in the older literature. Many of these tumours are not without a certain differentiation, manifested by the production of mucin-like substances, and special staining procedures are essential for their identification.

The term 'combined epidermoid and adenocarcinoma' has been applied to the 'comparatively rare tumour which should in some parts have definite evidence of epidermization as well as features that would qualify other parts unequivocally as adenocarcinomas'. Some pathologists designate these tumours as 'muco-epidermoid carcinomas', but in the WHO classification this term has been reserved for tumours where origin from bronchial glands is definite, or where goblet cells can be distinguished. The term 'combined' has been reserved for tumours containing two different kinds of differentiation from one and the same cell, while the term 'mixed' has been used in connexion with tumours with differentiation showing resemblance to epithelium as well as to connective tissue.

#### Changes in Sulphonamide and Antibiotic Resistance of *E. coli* in Urinary Infections outside Hospital during a 12-Year Period

W. A. GILLESPIE AND K. B. LINTON (*University of Bristol*)

The drug resistance was recorded of lactose-fermenting coliform bacilli (nearly all of which were *E. coli*) from urinary infections in pregnant women during the past 12 years. Sulphonamide resistance increased slightly, from an average of 6% of all strains during the years 1959-64 to an average of 12% during 1966-70. Ampicillin resistance rose from 2% in 1964 to 11% in 1970. Resistance to nitrofurantoin and nalidixic acid remained below 5% and 7% respectively probably because these drugs were rarely used. No trimethoprim-resistant strains were found since testing began in 1969.

The resistance patterns in *E. coli* urinary infections in non-pregnant women in 1969 and 1970 were similar to those in pregnant women during the same years. The resistance of the predominant coliform bacilli of healthy adults' faeces in the same population was also similar. Approximately 60% of the resistant strains from faeces and urine were able to transfer their resistance to a sensitive *E. coli* recipient.

Suphonamides will probably retain their value for primary treatment of acute urinary infection outside hospital for some years to come.

#### Influence of Employment with Livestock on Antibiotic-resistant *E. coli* in the Faeces of Healthy People

K. B. LINTON, M. H. RICHMOND, AND W. A. GILLESPIE (*University of Bristol*)

Faeces of healthy adults and of children under the age of 5, none of whom were attending hospital nor receiving antibiotics, were examined for the presence of antibiotic-resistant coliform bacilli.

A higher proportion of children (73%) than of adults (49%) carried resistant strains and this difference was observed in both the rural and urban groups.

Rural members of both age groups more often carried resistant organisms than urban members. Among rural adults, the incidence of drug-resistant strains was 63% in those whose occupation involved close contact with farm animals, compared with 29% in those with other occupations. The survey took place before the implementation of the Swann Report could have influenced the use of antibiotics in animal foodstuffs.

Transmissible R-factors were demonstrated in 61% of the resistant strains.

The incidence of transmissible resistance was similar among adults and children in town and country.

#### Haematological Findings and Fits during the Prevention and Treatment of Folate Deficiency in Long-term Anticonvulsant Therapy

R. D. EASTHAM AND J. JANCAR (*Frenchay Hospital, Bristol*)

Folate deficiency has been frequently reported in epileptic patients treated with anticonvulsants and in psychiatric patients, and folate supplements have been reported as causing toxic symptoms in normal subjects, and as increasing fit frequency whilst improving mental state in epileptic patients.

Yeast supplements, a natural source of folic acid, were given to both epileptic and non-epileptic, non-anaemic, mentally retarded patients. After three months of treatment with yeast, corresponding to the average normal red cell life, red cell and serum folate estimations were repeated in each clinical group. In the epileptic patients, on long-term treatment with anticonvulsants, both serum and red cell folate concentrations increased significantly, whereas in non-epileptics only the red cell folate concentration increased significantly in female patients. There was only a poor direct correlation between serum and red cell folate concentrations. The mean red cell volume was directly related to the daily dose of phenobarbitone, but red cell and serum folate concentrations were only poorly inversely correlated with phenobarbitone dosage, suggesting a different mechanism for the macrocytosis caused by phenobarbitone.

The number of fits recorded in epileptic patients during yeast therapy fell below the previous control period, and such yeast supplements have been effective in repairing folate deficiency without causing clinical trouble at very low financial cost, eliminating the need for costly and tedious laboratory estimations of serum and red cell folate concentrations in these patients. (The cost of yeast supplements per patient per three months of treatment is approximately 10p.)

#### Foetoprotein Estimation in the Diagnosis of Hepatoma

J. KOHN AND M. ADINOLFI (*Queen Mary's Hospital, Roehampton, and Guy's Hospital, London*)

Alpha<sub>1</sub> foetoprotein ( $\alpha_1$ FP) is a normal