

patients. We should see to it that we do not take advantage of this astonishing phenomenon of human recovery, but that we recognize it humbly as an aid to our art, and that we teach our assistants to treat it in the same way, so that when they leave us they go out with judgment and gentleness as good surgeons.

At this moment, waiting as we do on the edge of a volcano, waiting for the church bells to ring out, not joy and peace but war and destruction, it may seem difficult to turn our minds to the future, but we all desire that that future should be better than the past, and we must see that whatever reconstruction takes place the individual character of British surgery is maintained, for it is that character which is one of its greatest possessions.

CANCER RESEARCH IN WARTIME

REPORT OF EMPIRE CANCER CAMPAIGN

The seventeenth annual report of the British Empire Cancer Campaign, which was presented and adopted at the annual meeting, seems to have experienced no wartime attenuation, and its (nearly) three hundred pages are filled with information from forty or more research departments at home and over-seas. Appeals on behalf of the Campaign ceased on the outbreak of war, and cancer research, so far as it can be kept going, is financed out of capital funds. Thanks to this policy, all the more important investigations have been continued and valuable work is being done.

Carcinogenesis

Several of the research centres make reference to investigations on carcinogenic substances. In one experiment undertaken in the department of experimental pathology of the University of Leeds the morphology of one hundred and sixty tumours induced by carcinogenic hydrocarbons in the subcutaneous tissues of mice has been investigated. As was to be expected, sarcomata preponderated, but twenty-three examples were found of adenocarcinomata, nine of them unassociated with other types of growths. These tumours occurred only at the site of injection of the hydrocarbon, and from their histological appearance were directly to be attributed to its action. Such an occurrence has not previously been described. At the Chester Beatty Research Institute of the Royal Cancer Hospital evidence has been obtained which confirmed the theory that extracts of some human livers produce sarcoma in mice. Eleven such tumours have been obtained with four different groups of extracts.

A report from the Oxford University Research Centre of the Campaign summarizes the present position of the role of irritation in carcinogenesis by classifying skin irritants into five categories: (1) chemical (namely, the highly specific hydrocarbons); (2) physical, including such agents as x rays and ultra-violet light; (3) anti-carcinogenic irritants, such as mustard gas and cantharidin; (4) co-carcinogenic irritants, such as croton oil, which, though not in themselves carcinogenic, augment the tumour-producing action of carcinogens; and (5) non-specific irritants, including the great majority of skin irritants.

At other research centres, notably Leeds, the part which heredity may play in cancer, both in man and in animals, continues to be studied. A Yorkshire inquiry, which took cognizance of over 400 family groups, has not so far—it is still incomplete—revealed any striking evidence to suggest that heredity plays an important part in breast cancer in women. On the other hand, some work from Holland is quoted, relating to 660 family groups, in which it has been found that the female relatives of women with breast cancer suffer from this disease very much more frequently than do the rest of the female population. It is pointed out that, although it has been known for some time that heredity can influence

the incidence of breast cancer in mice, this should not be applied too closely to the problem in man, because the conditions of mating necessary to demonstrate the effect in mice—for example, very close inbreeding, necessitating brother-sister mating—never obtain in any civilized community.

Clinical Research

A large section of the report is taken up with an account of the work of the Clinical Research Committee, which was started by the Campaign three years ago. By the co-operation of a large number of individuals the cancer cases registered at all or nearly all the London hospitals have been taken and tabulated, with a view to bringing out age and sex distribution, incidence of carcinoma of the breast in parous and non-parous women, effect of treatment, and innumerable other points. The results should prove of great value when sufficient time has elapsed, because here is a pool of unselected cases, registered by comparable stages as recorded at the time of examination, and showing the proportion unsuitable for treatment when first seen.

It would be as well to describe fully the basis of the method in these successive annual reports, for it is assumed that the reader of this report is familiar with the method of recording and tabulation first described in the report for 1939. Moreover, in the general summary, which gives the site of the cancer in the 7,872 cases that have been coded and states that 2,915 are still living, there is no indication of the survival time. In several of the dissected tables, such as those concerning the family history of breast cancer, the relation of breast cancer to the number of children and miscarriages, and also to lactation, the high percentage of cases in which it has to be admitted that the particulars were not stated makes it impossible to draw any useful conclusions from the figures. It is hoped to eliminate these statistical errors in future by a more detailed questionnaire. The analyses in this report relate to breast cases and to mouth cases. With regard to the latter, which accounted for 6% of the total number of cases registered, it is shown that carcinoma of mouth and pharynx is predominantly a male disease, and that the incidence is very low up to the age of 50.

Much other work is referred to, including experiments in radiation, dosage measurement, and neutron research. At St. Bartholomew's Hospital the million-volt x-ray apparatus has been running at the full since February, 1939, and over 150 patients have been treated without mishap. Under the auspices of the Radium Beam Therapy Research the construction has begun of a pressure-insulated electrostatic generator and x-ray tube which is planned to reach an output of two million volts.

The Duke of Gloucester's Tribute

At the annual meeting of the Campaign Lord Hailsham, the Chairman of Grand Council, read a speech by the Duke of Gloucester, the President, who was prevented by military duties from attending. His Royal Highness said how glad he was to learn that neither the difficulty of ensuring the adequate provision of funds which cancer research required nor the direction of the efforts of skilled research workers into other channels had prevented admirable progress being made both in London and in provincial centres. The list of grants made to research centres by the Campaign at headquarters alone amounted to over £34,000 for 1941, or £2,000 more than last year.

C. C. Ling, S. S. Taur, P. C. Heuer, and S. Y. Yang (*Chinese med. J.*, 1940, **57**, 11) performed 110 sternal punctures and an equal number of blood cultures on typhoid and paratyphoid patients and found that, as compared with blood culture, sternal puncture yielded a distinctly higher percentage of positive results, and, owing to the heavier infection in the bone marrow than in the blood, culture gave a more rapid and abundant growth.