One of our urgent tasks will surely be to base all regulation and policy decision in this field upon progressively more solid and more widely agreed scientific assessments of this kind. In this area, the Radiation Committee has developed a close and fruitful cooperation and has become a well-balanced scientific instrument at the disposal of the General Assembly of the United Nations.

HIGH ENERGY RADIATION IN CANCER TREATMENT

Certain basic recommendations on the use of supervoltage radiation and radioisotope teletherapy in the treatment of malignant growths have been made by an expert study group which met in Vienna in August this year. The group, convened jointly by the International Atomic Energy Agency and the World Health Organization, was composed of 20 radiotherapists and radiation physicists from 12 countries, under the Chairmanship of Professor B. W. Windeler of the Meyerstein Institute of Radiotherapy, Middlesex Hospital, London.

High energy radiation, used in the treatment of malignant tumours, can be either in the form of gamma- or x-rays or in the form of beams of accelerated electrons. The source of radiation is kept at a certain distance from the patient.

The study group was agreed on the value of supervoltage radiotherapy, including gamma-ray and high voltage x-ray therapy as well as electron beam therapy. The required gamma radiation can be obtained from large sources of radioactive materials like cobalt 60 or caesium 137, while electron beams are produced by high voltage accelerators.

Four Categories

The experts felt that while it would be somewhat arbitrary to divide the various sources of supervoltage radiation into rigid categories, certain broad divisions might be useful. They considered the sources in four broad categories: large supervoltage units, intermediate units, small isotope units and units of electron beams or very high energy x-rays.

The first group includes supervoltage x-ray units in the range of 2-6 MeV (million electron volts) and radiocobalt units in which the radioactivity is of the order of 1 000 curies or more. These sources are kept at a minimum distance of 75 cm from the tumour to be attacked. The group agreed that such apparatus was essential for all institutions undertaking the treatment of cancer by ionizing radiations.

Intermediate units were defined as smaller cobalt units working at source/tumour distance in the range of 35-50 cm. It was felt that on purely scientific grounds, such units were not as good as the large units and should not be encouraged; the only reason for their adoption would be one of economy.

As regards small isotope units working at a distance of 25 cm or less, it was agreed that these were of value for the treatment of certain selected sites in the body (e.g. head and neck) and they should be made available either in addition to, or in the absence of, large units. Such units may be specifically designed to hold either cobalt 60 or caesium 137.

The experts recommended that further study groups should be convened to discuss such subjects as the determination of radiation doses in clinical practice and standardization of radiotherapy methods for their clinical evaluation. Another suggestion was that the IAEA and WHO should promote, support and undertake research on problems of radiation medicine as related to atomic energy in those fields in which international co-operation was most desirable.