AN EXAMINATION OF CERTAIN CANCERS OF THE MOUTH AND SOME ADJACENT STRUCTURES, WITH REGARD TO THEIR TREATMENT BY RADIOTHERAPEUTIC MEANS, INCLUDING THE USE OF MASS RADIUM AND RADIUM BEAM THERAPY.

.....

By John Mayo, M.B., B.S., Adelaide,
F.R.C.S., Edinburgh, F.R.A.C.S.

CONTENTS

The Larynx (continued)

Duration of symptoms.

Case treated with radium moulds.

Results.

Dosage.

Disabilities of the clinic.

Complications of treatment.

Cancer of the Tongue.

Cases at the clinic.

Site of growth.

Age distribution.

Incidence.

Results.

Dosage.

Problems of treatment.

Symptoms.

Duration of symptoms.

Cases treated with X ray.

A case treated with radium beam therapy
(Middlesex Hospital)

Max Cutler's concentrated radiotherapy.

His results.

A small radium unit.

Cancer of the tongue in my private practice.

Results.

Cancer of the tongue in a pregnant woman.

Sex ratio.

Ill-fitting dentures.

Age distribution.

Dissection of glands.

Outlook.

Preparation of the mouth.

Results of previous years at the clinic.

Untraced cases.

Survival rate.

Cancer of the floor of the mouth.

Age distribution.

Duration of symptoms.

Symptoms.

Stage of growth.

Mode of treatment.

Dissection of glands.

Results.

Dosage.

Cancer of the Tonsil.

Age distribution.

Results.

Mode of treatment.

Symptoms.

Duration of symptoms.

Dosage.

Coutard and X rays.

Berven's mode of treatment.

Cancer of the Palate.

Age distribution.

Site.

Results.

Mode of treatment.

Symptoms.

Duration of symptoms.

Dosage.

Cancer of the buccal surface of the Cheek.

Ages.

Results.

Mode of treatment and dosage.

Symptoms.

Duration of symptoms.

Telecurietherapy and mass radium.

Introduction.

History of beam therapy units.

Establishment of beam therapy research in England.

The need for physicists.

Treatment of glands.

Summary of results.

Heavy radium moulds.

Cases.

Disadvantages of large moulds.

Comparison of large moulds and beam therapy.

Possibilities of deep X ray.

Volume dosage.

The technique of treatment.

Construction of moulds.

The question of biopsy.

The importance of palpation.

Possible factors in the production of mouth cancer.

General principles; the planning of treatment.

Organization of the department.

Summary and conclusion.

Bibliography

Isodose curves.

Incidence curves.

Reprints.

"Some Aspects of Modern Treatment by Radium".

"Sarcoma of the Skull in an Infant".

AN EXAMINATION OF CERTAIN CANCERS OF THE MOUTH AND SOME ADJACENT STRUCTURES, WITH REGARD TO THEIR TREATMENT BY RADIOTHERAPEUTIC MEANS, INCLUDING THE USE OF MASS RADIUM AND RADIUM BEAM THERAPY.

.....

Scope of the Thesis

This thesis treats of certain cancers of the mouth and some adjacent structures and their treatment by means of radiotherapy. It is intended as a critical commentary on the work of that nature performed at the Radiotherapy Clinic of the Royal Adelaide Hospital during the years 1939 to 1943.

These years are chosen partly because I then found myself, to some extent through accident of war, in charge of the major portion of the work of this clinic. With the departure of several radiologists my scope was enlarged from that of Honorary Associate Radium Therapist to include most of the radium work, all the deep and superficial X ray, and even some radiodiagnosis. They were years of stress and difficulty, and no doubt performance and results fell short of the desirable optimum for such a clinic.

This is, in my view, all the more reason for examination and criticism of the work carried out.

The investigation began chiefly in connection with cases of cancer of the tongue, and on account of the difficulty of separating such lesions from those of the floor of the mouth, the tonsils and other nearby structures, was extended to include most of the carcinomata of the buccal cavity. The larynx was then added, partly because epilaryngeal growths impinge so closely upon the areas already under consideration, and also because such a site figures to no small extent as one suitable for radium beam therapy,

which type of treatment is discussed at some length.

A sense of dissatisfaction with our results of treatment of this region was also a reason that influenced me to include it.

Another point of interest is that much the same group of people are affected by cancer of the buccal cavity and cancer of the larynx, suggesting that much the same factors are operating to produce such disease.

Beside the main subject of the survey, certain other cases are presented as having a bearing on the matters under consideration. In particular, there is an account of treatment by mass radium such has been attempted at this clinic, and references are made to such work elsewhere. Although most of the material deals with treatment by radium a proportion of the cases have been treated by roentgen-therapy.

It must be remembered that in Australia no vast masses of radium are available for the purpose of intensive treatment, nor are there the extensive physical aids that are to be found in the older and more established countries.

The total radium in use in Australia, both public and private, would probably be less than is contained in three of the beam therapy units in Britain, while the comprehensive and effective organization is also on a reduced scale.

This is not to say that no good work has been done in this country. On the contrary, much good work has been done, but the difficulties are greater, in that facilities for consultation with other radiotherapeutic clinics are negligible, except for annual conferences which have been discontinued since the beginning of war.

In England, Europe and America, one has easy access to established clinics, libraries and eminent physicists. Here, although an excellent physical service is in existence with a number of able men, it cannot yet hope to compete with some on the other side of the world. I doubt,

moreover, whether there is a well equipped radiotherapeutic library in the whole of the country.

It is not with any sense of satisfaction that cancers in these regions have been chosen for study. Even in the more famous clinics in the older countries the survival rates are not such as to produce any undue elation. Rather it is with the idea of compiling data, checking faults, and finding causes for failure that this examination has been undertaken. If some figures are relatively satisfactory so much the better. There are undoubtedly other figures that are not.

Treatment of cancer in these sites has always been difficult, and before the advent of radiotherapy was limited to surgery. Under these conditions many cases could not be treated at all, and when treatment was possible the operation was apt to be severely mutilating. In some cases surgical interference was disastrous. Radiation at least provided another possible mode of treatment.

.....