

CANCER, ITS TREATMENT AND NURSING CARE

(Especially in relation to Radiation Therapy)

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Cancer is a problem today and a very difficult one. Radiation Therapy is one way to help these patients. Radiation is given by two methods, one with machine and the other with radium needles or tubes. By both methods the tumour cells are killed by the X-Rays.

By machine : Radiation is given at first with low energy machines. The maximum dose from any given field is on the skin surface. Thus the dose that can be delivered to the tumour at some depth is limited by the tolerance of the skin to Radiation. This problem was overcome in 1950 with the introduction of super voltage equipment. X-Rays produced by these machines are much higher in energy and consequently more penetrating. The maximum dose from a given field is beneath the surface of the skin rather than on it. Thus much higher doses can now be delivered to deep lying tumours.

Radiation Therapy is the main stay in treating certain cancers, notably the malignant lymphomas, especially Hodgkins, Carcinoma of the Cervix, and certain types of head and neck cancers such as cancer larynx and skin cancer.

The treatment of Hodgkins disease is one of the great success stories of the last decade. Ten years ago this disease was universally fatal. Today appropriate radiation therapy can cure half the patients with early stage disease. This is because the disease is localised at the onset and tends to spread first to the directly adjacent lymph nodes.

Carcinoma of the cervix has the longest history and successful treatment of radiotherapy when it

is treated with combination of internally applied radium and external beam therapy. Surgery is an alternate form of treatment in stage one.

Head and neck cancers are also susceptible to cure when treated early.

Attempts are being made to find out means to make radiation more effective or to find out a wonder drug to cure all cancer patients. So far none has succeeded. About 2,00,000 drugs have been synthesised and tested in laboratories for cure of cancers; only 25 have been found to be of limited use—all palliative. A combination of chemotherapy and radiotherapy is being tried. It may help by reducing the size of an advanced tumour. Some are showing encouraging results.

As much as 80% of cancer patients visiting the institution pass through the radiation therapy department. They may get a cure if the cancer is in early stage and palliation if at late stage of the disease.

Protection against radiation :

There are 3 basic rules for protection against radium. Those who are working in radiation departments must observe these three rules. (1) Keep away as far as possible; (2) Do the work quickly; (3) Work behind a lead barrier.

Length of application :

When a radium tube is applied for cancer cervix it is kept in for 2-3 days. When interstitial radium needles are applied for cheek and tongue they may be kept in up to one week—calculation of duration is made according to the stage of the disease. The time slip giving precise instructions is given to the Ward Sisters.

The side effects of radiation are general and local. The general reaction is also called radiation sickness, because nausea and vomiting

are the most distressing symptoms. Radiation sickness is associated with anorexia, nausea, vomiting, diarrhoea, loss of weight and general malaise.

The leucocyte count goes down, the bone marrow is depressed, the epithelium of the gastro intestinal mucosa is shed, and the whole gut may become a raw surface. There may be fever and rapid emaciation.

All the tissues of the body are sensitive in varying degree. It also varies within individual sensitivity.

Management of reactions :

For general reactions such as nausea and vomiting one can use largactel, stenetet etc. Mild nausea is stopped by Vit B-6 (Pyridoxin). If the vomiting is severe one may have to give fluid replacement and stop the radiation. Regular blood count should be done and if the total W.B.C. count goes down below 3,000 the Radiation Therapy should be stopped.

Local effects on radiation can be seen on skin, eyes, mouth etc. The immediate ones are :

(1) Pigmentation of skin; (2) Redness; (3) Loss of hair; (4) Scaliness and (5) Ulceration and necrosis.

Local reaction is treated symptomatically. Adhesive tape should not be used for the dressing of wound in the area undergoing radiation therapy scotch tape (cellophane) can be used instead. The skin should be kept dry always. The part should not be wet until a few days after the treatment is finished. When there is a wet disquamation 1% G.V. is applied. Reaction in the mucus membrane of the mouth is minimised by administration of Vit A. Patient should be given cod liver oil or such preparations. Syrup Nystatin is also helpful. Mouth washes with pot. permanganate or thymolglycerine should be given several times per day. Alcohol and tobacco must be avoided as they irritate the mucus membrane of the mouth and reduce the tolerance of radiation. Occasionally the nurse will use a high pressure spray to flush out necrotic material from an intra oral tumour (We use Higgisons' rubber syringe for mouth irrigation). Skin care is very

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