

Nursing Management for Patients Receiving Radiotherapy

Chanphen Manosilapakorn, RN, PhD

Nursing Goals

The nursing care for patients being treated with radiation must be aimed not only at problems associated with the disease and its effects on the way the individual functions, but also at minimizing, controlling and preventing the effects associated with radiotherapy.

Nursing Care...

□ Must be...

- Individualized & Holistic
- Intelligent & Thoughtful
- Scientific & Compassionate



Quality of Care

Effective Care...

Effective care, incorporating information and counseling, cannot be given, unless the nurse is aware of the biological effects of radiation and how these may compromise the patient's normal activities of daily living.

Questions for the 1st Step!

- What is the diagnosis?
 - What is the prognosis?
 - What is the goal of treatment?
 - Does the person know and understand the diagnosis?
 - How is about the family?
 - What is the plan of treatment? Adjuvant therapy?
 - What does the person know and understand about radiotherapy?
 - Where can the correct information about the individual's treatment plan be obtained?
-

Who involve in radiation team?

- **Oncologist**—Diagnosis and treatments
 - **Nurse**—Nursing care (pre-radiation, during radiation and post-radiation)
 - **Physics**—Calculation on the amount of dose in radiation
 - **Radiologist**—Providing radiation regarding the physician's order
-

Radiation Therapy Planning

- ❑ Therapy usually planned on a simulator (x-ray unit)
 - ❑ Patient needs to be positioned to allow reproducibility and comfort
 - ❑ Oncologist choose target volume (tumor+margin)
 - ❑ Target volume uses the arrangement of beams (high dose in target and minimizing dose in normal tissue)
-

Pre-Radiation

- Preparation of knowledge on radiotherapy by assessing and giving information
 - What is radiotherapy?
 - How much expenses for radiation?
 - Can the 30 scheme (national health insurance) cover the radiation?
 - How long for the radiation?
 - What will be complications?
 - How to take care of yourself?
-

Pre-Radiation

- Preparation of patient (body)
 - Laboratory tests—CBC, E'lyte, Blood chemistry
-

How to take care the treated area?

- ❑ Keep the skin dry
 - ❑ Do not remove the ink marks
 - ❑ Avoid using powder, lotions, creams, alcohol, and deodorant
 - ❑ Wear loose-fitting cloths
 - ❑ Shave with an electric razor only
 - ❑ Protect the skin from direct sunlight, chlorine, and extreme temperature
-

Side Effect of Radiation

☐ **Acute side effect**

- Occur because of damage to stem cells in rapidly dividing mucosa, e.g., pharynx, small bowel
- Usually begin 7-10 days after the start, and subside 2-3 weeks after treatment

☐ **Chronic side effect**

- Occur because of damage to stem cells in slowly dividing tissues
- Often permanent, irreversible
- May need surgical correction—fistulas, strictures

☐ **Specific side effect**

Side-Effect of Radiotherapy

- Fatigue
 - Anorexia
 - Mucositis
 - Xerostomia
 - Alopecia
 - Skin reaction
 - Nausea & Vomiting
 - Esophagitis & Dysphagia
 - Diarrhea
 - Cystitis
 - Bone marrow depression
-

Fatigue..

- Factors contributing to fatigue
 - Surgery/Chemotherapy
 - Pain
 - Malnutrition
 - Medications
 - Anemia
 - Normal lifestyle

Nursing Care

Assessing **contributing factors**, and encouraging patient to rest and limit daily activities.

Anorexia..

□ Factors contributing to anorexia

- Waste products of tissue destruction, anemia, inactivity, medications, and psychological problems

Nursing Care

- * Eat small, frequent meals
 - * Change diet and environment
 - * Stimulate appetite
 - * Eat nutritious and high protein snacks
 - * Avoid fatty or greasy foods
 - * Take nutritional supplements
-

Mucositis/ Stomatitis..

□ Mucositis is....

- A patchy, white membrane become confluent and may bleed if disturbed.

Nursing Care

- * Avoid irritants—alcohol, tobacco, spicy, acid foods or hot drinks
 - * Eat soft or liquid diet
 - * Mouth care with saline or water frequently
-

Xerostomia..

- ❑ Xerostomia is associated with the dry mouth that results from radiation to salivary glands
- ❑ It includes alterations in taste

Nursing Care

- * Moisten foods
 - * Use artificial saliva
 - * Make foods easier to eat
 - * Avoid dry foods
 - * Soak foods in coffee, milk or warm drinks
 - * Mouth care with saline frequently
-

Alopecia..

- Alopecia is described as the loss of hair that can occur with the radiation of the brain

Nursing Care

- * Gently brush and comb, infrequently shampoo
 - * Avoid the use of hair coloring and chemical
 - * Give psychological support for change of body image
 - * Give advice for using wig if necessary
-

Skin Reactions

- Skin reactions include erythema, dry and moist desquamation

Nursing Care

- * Prevent increasing irritation and avoid scratch
 - * Not to use any perfumed soap, ointments or deodorant
 - * Use baby powder or maize starch
 - * Wear loose-cloths and cotton made rather synthetic materials
 - * Open to fresh air but not direct to sunlight
 - * Teach patients about skin care—skin emulsion cream for dry, and pain management and antibiotic spray for moist desquamation
-

Nausea & Vomiting..

- ❑ Xerostomia is associated with the dry mouth that results from radiation to salivary glands
- ❑ It includes alterations in taste

Nursing Care

- * Eat small, frequent meals
 - * Eat salty foods, add salt in foods
 - * Drink clear or cool beverages
 - * Avoid overly sweet, greasy or high fat foods
 - * Rest with the head elevated after eating
 - * Mouth care
 - * Take antinausea or antiemetic medications if necessary
-

Esophagitis & Dysphagia

- Firstly recognize “difficulty in swallowing solids” and make swallowing painful resulting in decrease in intake foods and fluids

Nursing Care

- * Eat high-calorie, high-protein diet
 - * Drink plenty of liquids
 - * Eat soft and liquid foods
 - * Blenderize solid foods
-

Diarrhea...

- Can occur if the areas of the abdomen and pelvis are treated

Nursing Care

- * Drink plenty of fluids to avoid dehydration
 - * Avoid milk or dairy products
 - * Avoid foods high in fiber
 - * Avoid high fat, spicy, and gas forming foods
 - * Electrolyte replacement--potassium
-

Cystitis...

- Cystitis and urethritis result from radiation to the pelvic and bladder areas

Nursing Care

- * Urine examination
 - * Drink plenty of fluid
 - * Observe infectious signs—fever, difficulty of voiding
 - * Avoid moisture in the area treated
 - * Take antibiotic as prescribed
-

Bone Marrow Suppression...

- Can occur if the areas of the abdomen and pelvis are treated

Nursing Care

- * Examine blood counts weekly
 - * Observe signs and symptoms of bleeding, anemia, and infection
 - * Teach patients to look for these signs
 - * Transfuse blood components as necessary
 - * Give health education on nutritious foods—egg
-

Nurses' Roles

- ❑ Provision of nursing care
 - ❑ Emotional support
 - ❑ Monitoring/ Coordination
 - ❑ Health education
 - ❑ Follow up/ Referral system
 - ❑ Promotion of quality of life
-

Question...

- How you can give health education to patient receive radiotherapy?
-

Thank you for your attention!!
