The challenge of radiotherapy nursing: Coming out of the shadows and facing the sun.

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Radiotherapy is the use of ionizing radiation to treat tumours, (Souhami and Tobias, 2003) and over half of the patients who require treatment for their disease will need radiotherapy. The side effects tend to be mainly local to the area of the body being treated and these can be acute or late onset. Regular on-treatment review is undertaken. With the advent of new technology and megavoltage machines, the reaction of the skin is reduced. The addition of chemotherapy, which acts as a radiosensitizer, potentiates skin toxicity.

"90% of patients will experience skin side effects, these can vary from erythema to desquamation". (D’Haese et al, 2005)

In our unit, as many as 150 patients a day can be treated on 5 linear accelerators and one superficial x-ray machine. The treatment is delivered by a team of radiographers, clinicians and nurses. The on-treatment reviews are mainly undertaken by nurses of which there are 2 whole-time equivalents. The nursing team hopes to expand significantly when the new Cancer Centre is completed. Reviews are regularly undertaken from the 3rd week of a long (5-6 week) course of treatment.

Patients who develop significant side-effects require more frequent reviews than in our normal practice. In particular, those patients experiencing skin toxicity require very frequent assessments.

The types of skin reaction:

- **Erythema** - redness, warm skin
- **Dry desquamation** - itchy flaky skin
- **Moist desquamation** - epidermis is affected leading to oozing and peeling of the skin
- **Ulceration/Necrosis** - the most severe reaction, this is not often seen now due to advances in measuring skin toxicity.

3 illustrated cases

**Example of dry desquamation**

Patient receiving radiotherapy to the breast following surgery. Patient was treated with 41.6 Gy in 13 fractions.

**Example of moist desquamation**

Patient receiving radiotherapy for anal cancer - radical treatment in combination with chemotherapy in weeks 2 and 5. Patient received 50.4 Gy.

**Case Study**

Patient received 59.04 Gy in 13 fractions

A 59 year old lady who received radiotherapy and chemotherapy to her groin and anal area. She had an anal tumour and received 58.4 Gy in 28 fractions. ActiFormCool® was used to the groin with very good effect as it was soothing and easy to remove while protecting her skin from her clothes. The anal area was dressed with hydrogel and ActiFormCool® sheets were used as compresses for symptomatic relief as needed.

**Results**

Acute reactions can occur up to 10 days post treatment.

Healing of skin post radiotherapy could be weeks to months, even if it becomes a different colour and texture to before.

It is important not to underestimate the emotional impact of treatment for cancer on the patient i.e. possible fatigue, change in body image, anxiety, pain, sexual problems.

**Criteria for skin care treatment regimes**

- Comfort and protection from further damage
- Pain and symptom control due to the inflammatory response of the tissues
- Low adherence
- Healing by applying moist wound healing principles
- Easiy removal on a frequent basis for radiotherapy treatment
- Simple to use by patients who change their own dressings

**Discussion**

Treatment of skin varies according to type of reaction and condition of patients’ skin. As many of the patients treated are palliative i.e. not curable and the skin can be fragile with the presence of a fungating wound, healing is secondary to symptom control. Simple dressings that offer low adherence and pain relief address this dilemma.

As the severity of reactions cannot be predicted, care is directed towards promoting comfort (Porock, 1999). These patients require much support in order to complete the planned schedule necessitating frequent reviews, hence the need for more nurses.

Analgesia and anti-inflammatories can be useful in managing side-effects.

**Conclusion**

Some have indentified factors which may increase the change of a more severe reaction like smoking, drug therapy, co-morbidity (Porock, 1999, Faithful, 2003). Use of simple creams and keeping skin moist can alleviate soreness. (Lavery et al,1995) the use of drying measures i.e. gentle violet, is now not recommended. (Boot-Vickers and Eaton, 1999, Mak et al,2000). Dressings like ActiFormCool® hydrogel and foams play an important part of the treatment in the dry and wet phases to provide solutions to healing, but more importantly the relief of pain for this distressing condition may play a significant role in patient care.

The skin care protocol at our Cancer Centre follows the principles of moist wound healing with differing advice according to the reaction experienced. As new products for applying to the skin are developed, it is important the nurses are aware of them so that the patient receives the best care possible.

**References**