Nursing Care of the Patient Receiving Brachytherapy for Gynecologic Cancer

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Objectives

• Differentiate between High Dose Rate (HDR) and Low Dose Rate (LDR) Brachytherapy

• Assess the educational needs of the brachytherapy patient and develop a plan of care

• Describe the pre and post procedure care for the brachytherapy patient

• Share experiences
Types of Radiation Treatment

- **External Beam**
  - Delivered by linear accelerators (linac)
  - Photons or Electrons
  - Shaped by leaves or blocks
  - Fractionated treatment

Types of Radiation Treatment cont.

- **Brachytherapy**
  - Delivered by placing radioactive source directly in or near the target (tumor)
    - **High Dose Rate (HDR)**
    - **Low Dose Rate (LDR)**
Gynecologic Brachytherapy

- Patient Selection
  - Recurrent endometrial
  - Inoperable endometrial
  - Cervical
  - Vulvar
  - Vaginal

Gynecologic Brachytherapy

- HDR
  - Iridium
  - Sealed source
  - Removed after 10 min (temporary)
  - Patient is NOT RADIOACTIVE

- LDR
  - Cesium
  - Source stays in for several days
  - Patient IS RADIOACTIVE and needs shielded room
Types of Implants

- Interstitial

- Tandem based
  • (Tandem and Ovoid/Ring/Cylinder)

- Cylinder

Interstitial HDR Treatment

- Endometrial (recurrent or inoperable)
  • Recurrence usually at the vaginal apex (s/p radical hysterectomy)
  • Co-morbidities preclude patients from surgery

- Vaginal or Vulvar
  • Advanced vulvar or recurrence after radical vulvectomy
  • Vaginal primary cancer or recurrence of cervical or endometrial cancer within the vagina
Pre Op Interstitial HDR treatment

• Radiation Oncology Nurse
  – NPO guidelines
  – Bowel prep-individual
  – Smoking cessation
  – Skin assessment
  – Anticoagulation

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Laboratory Studies PATC

– UA and C&S
– CBC
– Coags
– Clot
– Chemistries...Mg++, K+, BUN, Creatinine

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Interstitial HDR treatment

• How is the procedure done?
  – Epidural for post op pain management
  – General anesthesia (ODA team)
  – DVT prophylaxis
  – Lithotomy
  – Shielded procedure room
    • CT scanner
    • Anesthesia
    • Afterloader
  – Template sewn to perineum
  – Catheters inserted through the template using CT imaging for guided placement and treatment planning
  – Radiation is delivered
  – Average time 4 hrs

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Case Study

D.H.
- 68 y.o. woman with single episode of post menopausal bleeding in September 2008.
- Workup with endometrial biopsy revealed adenocarcinoma
- November 2008, underwent laparoscopic TAH/BSO w/ B LND
- Pathology demonstrated a FIGO grade 1 endometrioid adenocarcinoma with focal mucinous differentiation and lymphovascular invasion
  - 1 right-sided node was positive for cancer of 16 pelvic lymph nodes (11 on the right, 5 on the left)
  - Surgical margins were negative and there was no involvement of the parametrium, cervix, bilateral ovaries or fallopian tubes. Pelvic washings were negative.

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Case study cont

- Postoperatively, she completed two cycles of carbo/taxol chemotherapy, with brachytherapy to a dose of 2100 cGy in 700cGy fractions to the vaginal apex from December 2008 to January 2009, followed by an additional 6 cycles of carboplatin and taxol.
- She had been followed with serial scans and reported a normal PET in April 2009
- April 2011 vaginal recurrence was noted
- Completed pelvic radiation (4500cGy) with concurrent cisplatin

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Procedure

- Interstitial implant done in *AMIGO suite
  *Advanced Magnetic Image Guided Operation
- CT scan for done treatment planning in Radiation
- Recovered in PACU
- Brought back to Radiation for six fractions
  (BID for three days)
Post Interstitial HDR

- Inpatient GYN Oncology
  - Bedrest for 4-5 days
- Epidural needed for postoperative pain management
- Radium precautions not needed
- Lomotil/low residue diet (bowel rest)
Post GYN HDR Treatment

Post applicator removal
- Skin care
- Rehab (PT, exercise)
- Elimination/appetite/bladder

Longer term
- Skin
- Fatigue
- Vaginal stenosis
- Psychosocial concerns/sexual health

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Tandem Based Implant
(Ovoid/Ring/Cylinder)
- Procedure suite in Radiation Oncology
- Outpatient - Five treatments
  (usually Monday & Wednesday x 3 weeks)
- General anesthesia
- Often still receiving or have received external beam radiation with cisplatin chemotherapy as a radio sensitizer

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Patient Selection/Applicator
- Cervical cancer
  Tandem and Ovoid/Ring/Cylinder
- Inoperable Endometrial
  Martinez
  Double Tandem
  Tandem and Cylinder

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Discharge Instructions
(immediately post procedure)

• Told to expect:
  – Vaginal discharge, often pink
  – Dysuria
  – Fatigue

End of Treatment
Discharge Teaching

• Customized skin care reviewed
• Bowel regimen reviewed
• Vaginal dilation reviewed
• Follow up plan reviewed
Follow up care

• Pap smears
  – Every 3 months x 2 yrs
  – Every 6 months x 3 yrs

• Medical Oncology monitors labs, imaging

Vaginal Cylinder

Patient selection
• Endometrial cancer s/p radical hysterectomy
• Cervical cancer s/p radical hysterectomy
• Vaginal cancer
• VIN

Treatment Regimen

• Pelvic and/or whole abdomen radiation (usually 4500cGy) followed by four fractions
  (400x4+1600cGy)

• Vaginal cylinder brachytherapy alone> six fractions
  (500x 6=3000cGy)
Discharge Teaching/Instructions

- Told to expect vaginal discharge
- Told to expect mild dysuria
- Vaginal dilation reviewed
- Follow up plan reviewed

Questions?

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