The Management of Gynecologic Cancers
With Dr. Viswanathan

Learning Objectives:

1. Discuss indications and techniques for external beam radiation with concurrent chemotherapy, including tumor and treatment variables which impact outcome
2. Discuss indications and techniques for brachytherapy, including high dose rate and low dose rate
3. Discuss new advances in technology and treatments for cervical cancer
4. Discuss new advances and treatments for endometrial cancer

Question 1:
Which one of the following are not criteria for post-operative radiation in women with FIGO stage I cervical cancer after a radical hysterectomy?

a) A 2 cm wide primary lesion with 1cm (superficial 1/3) stromal invasion and a positive iliac lymph node
b) A 4 cm wide primary lesion with 3cm (>2/3 deep) stromal invasion and lymphovascular invasion
c) A 3 cm wide primary lesion with 1 cm (superficial 1/3) stromal invasion and adenosquamous histology
d) A 1 cm wide primary lesion with 0.5cm (superficial 1/3) stromal invasion and a positive parametrial margin
e) A 5 cm wide primary lesion with 4 cm (>2/3 deep) stromal invasion and tumor cut-through

Answer: C

Feedback:
Criteria for post-operative radiation after a radical hysterectomy include positive nodes, parametria or margins for high risk patients. For intermediate risk patients, if lymphovascular invasion is absent, patients should have deep or middle 1/3 stromal invasion and a tumor size > 4 cm. For patients that do have lymphovascular invasion, if the stromal invasion is to the superficial 1/3, then the tumor should be > 5 cm. If the stromal invasion is to the middle 1/3, then the tumor should be > 2 cm. If the stromal invasion is to the deep 1/3, then the tumor should be any size. Histology is not a selection criterion for treatment.

Location: Slide 35

Reference:


--- End of Question 1 ---
Question 2:
Simulating a post-hysterectomy cervical cancer patient in the prone position results in:

- a) A reduction in small bowel dose
- b) An increase in rectal dose
- c) An increase in bladder dose
- d) A reduction in vaginal dose
- e) An increase in nodal dose

Answer: A

Feedback:
The small bowel moves anteriorly into the belly board and out of the pelvis.

Location: Slide 54

Reference:
**Question 3:**
The equivalent dose in 2 Gy formula for HDR brachytherapy includes the following

a) the half life for Iridium  

b) The number of external beam fractions received  

c) The planned total dose  

d) The dose per fraction  

e) The repair time for the sigmoid

**Answer:** D

**Feedback:**
The equivalent dose in 2 Gy formula takes the biologically equivalent dose formula (BED) and divides this by 1.2 in order to re-calibrate dose to approximate 2 Gy fraction sizes. The BED includes the number of fractions  
* the dose per fraction times 1 plus the dose per fraction over the alpha beta ratio.  
BED=(nd)(1+d/α/β); EQD2=BED/1.2 for tumor

**Location:**
Slide 70

**Reference:**


--- End of Question 3 ---
Question 4:

The MRC ASTEC trial demonstrated that a routine lymphadenectomy
a. Did not improve survival
b. Improved distant control
c. Did not add morbidity
d. Shortened the operating time
e. Did improve relapse free survival

Answer A

Slide numbers 24-25

Feedback

The MRC ASTEC trial was a randomized trial of 1408 patients with intermediate to high risk Stage I endometrial carcinoma with the primary objective to see if lymphadenectomy improved survival. There was no benefit found in overall or relapse free survival although morbidity was increased.


--- End of Question 4 ---
Question 5:

The PORTEC-2 trial demonstrated:

a. Pelvic RT reduced the rate of vaginal recurrence when compared with vaginal brachytherapy.
b. The survival rate of women with deeply invasive grade three endometrial cancer was the same for women treated with pelvic radiation therapy or vaginal brachytherapy.
c. Pelvic RT reduced the rate of pelvic recurrence when compared with vaginal brachytherapy.
d. Vaginal brachytherapy increased the risk of bowel toxicity

Answer C

Feedback
The PORTEC-2 trial was a randomized trial comparing postoperative pelvic radiation therapy versus vaginal cuff brachytherapy in 427 women who had “high intermediate-risk” endometrial cancer found at hysterectomy. The authors reported a decreased rate of pelvic recurrence but no differences in the rates of vaginal recurrence or survival. Patients who had deeply invasive grade 3 disease were not eligible for the trial.

Reference:


Slides 13-18

--- End of Question 5 ---