

Brachytherapy for Gynecological Cancers

I. Introduction

Brachytherapy for gynecological cancers involves placement of a radioactive device in the cavities of the vagina, cervix and/or uterus. A high dose of radiation is delivered locally to destroy the tumour cells at a close range. Normal structures nearby are also affected, but this only involves a small amount of normal tissues in the immediate vicinity of the tumour.

II. Procedure

The procedure will take place inside the operating theater under either general or local anesthesia. A urinary catheter may be inserted. A set of apparatus will be placed in the vagina, cervix and/or uterus. After confirming the position by imaging, radioactive sources will be transferred into the apparatus to deliver brachytherapy which normally will take less than 10 to 20 minutes. You will be staying alone in the treatment suite until treatment has been completed. You will be watched closely through a closed-circuit television system. The apparatus will be removed after the procedure. You will be transferred back to the ward when your condition becomes stable after recovery from the anaesthesia.

III. Risks and Side Effects

- Although radiotherapy is an effective treatment for your disease, it can cause short-term and long-term side effects. Our medical and nursing staff will offer appropriate treatment to help you complete the course of radiotherapy.
- Some of the common and potentially severe side effects are discussed below. Each patient reacts differently and may experience none, some, or all of the complications to a varying degree of severity. If other types of treatment such as chemotherapy are given in conjunction with radiotherapy, some of the side effects may be exacerbated. Complications are also more common in patients who have had previous surgery/radiotherapy in the area being currently treated with radiotherapy.

A. Short-Term Side Effects

These may occur during radiotherapy, but usually disappear several weeks after the completion of treatment. Since patients often need external pelvic irradiation, the side

effects of external irradiation may also appear. For those patients who only need post-operative local vaginal brachytherapy, the side effects they experience are usually of a minor degree.

Common

1. Vaginal irritation with burning sensation, pain, discharge and bleeding.
2. Bladder and urethral inflammation causing urinary frequency, pain and sometimes bleeding when passing urine.
3. Bowel inflammation causing abdominal cramps and diarrhea.
4. Inflammation of the rectum and anus causing pain, irritation, mucous discharge and sometimes bleeding.
5. Risks of anaesthesia if the treatment is given under anaesthesia. The anaesthetic procedures and risks will be explained by the anaesthetist.

Uncommon/Rare Risks with Serious Consequences

1. Vaginal laceration occurs rarely during the insertion of applicators. This can be remedied by simple stitching during anesthesia.
2. Perforation of the uterus.
3. Infection or abscess formation. This is usually limited to the genital area but septicaemia may occur in the most severe cases.
4. Injury to adjacent organs, surgery may be needed for repair.
5. Shifting of applicator during the procedure leading to geographical uncertainties during radiotherapy delivery. Adjustment of applicator under repeated anaesthesia may be needed.

B. Long-Term Side Effects

These may occur months or years after radiotherapy and may persist.

Common

1. Chronic rectal and anal inflammation causing pain and irritation upon defecation, mucous discharge and sometimes with bleeding.

Uncommon/Rare

1. Chronic bowel inflammation causing diarrhea, irregular bowel habit or chronic abdominal pain.
2. Bowel injury resulting in obstruction, ulceration, perforation, bleeding or poor absorption.
3. Chronic bladder inflammation or atrophy causing urinary frequency and urgency.
4. Bladder damage causing pain upon urination, blood in urine or recurrent infection.
5. Dryness, narrowing or adhesion of the vagina resulting in sexual dysfunction. Patients may use topical KY jelly or vaginal dilator. Regular vaginal douching and sexual life can help reduce abnormal vaginal adhesion.
6. Severe radiation injury to the vagina resulting in chronic pain, recurrent infection or ulceration.
7. Fistula between the bowel, bladder and the vagina.
8. Stricture in the ureters, urethra or bladder neck leading to renal failure. The risk is increased in patients who had previous surgery to the area treated.
9. Surgery or stoma may be required to manage severe complications of the bowel and bladder.
10. Pelvic bone damage leading to dislocation or fracture.

Note:

- Radiation-induced tumours may occur, but this is rare.
- On rare occasions, patients may develop severe life-threatening complications due to radiotherapy and die.
- It is possible that the intended treatment outcome cannot be achieved, and the disease may not be alleviated or may recur/ progress in the future.
- Despite all precautions, unpredictable and unpreventable adverse outcomes may occur after treatment. Please kindly ensure that you understand the pros and cons of radiotherapy before deciding on undergoing the latter.

IV. Before the Treatment / Preparations Required

1. The treatment plan and radiotherapy schedule depend on the type and location of the tumour, as well as your health condition. Your doctor will discuss the details with you and explain how you can cope with the treatment side effects.
2. Our staff will take written, photographic and radiographic records of your treatment for radiotherapy planning and future reference. These records may be used for research or scientific publications but your confidentiality will be maintained at all times.
3. Local or general anaesthesia is required. Please follow the instructions (e.g. assessment by anaesthetist before surgery) and admission procedures.
4. Bowel and dietary preparation is required. Our nurses will give you further instructions.

Note:

- **Radiotherapy can cause teratogenicity (i.e. lead to abnormal fetal development). During radiotherapy, both male and female patients (if applicable) should use an effective method of contraception.**
- **Radiotherapy may affect the function of your pacemaker. Please let us know if you have a cardiac pacemaker.**

V. After the Treatment

1. You may feel tired or experience other side effects with anaesthesia or radiotherapy but these usually subside within a few hours. You may ask your family or friends to accompany you leaving the hospital.
2. Our doctors will assess you before and after the procedure and take appropriate measures to minimise your side effects.
3. If you feel unwell during the treatment period, please inform our staff.

VI. Follow-up

1. The time taken for recovery varies from person to person, some people can go back to work shortly after the completion of treatment.
2. A follow-up appointment will be given to you before you leave the hospital. Please attend your appointment as scheduled.
3. Please ensure that you follow precisely the instructions given to you regarding medications (if applicable).

VII. Remarks

The list of complications is not exhaustive and other unforeseen complications may occasionally occur. The risk of some complications may actually be higher for certain patient groups. For further information, please contact your doctor.