ALL YOU NEED TO KNOW ABOUT

PELVIC RADIATION DISEASE

FUNDING RESEARCH INTO DISEASES OF THE GUT, LIVER & PANCREAS
Pelvic Radiation Disease is a term used to describe a collection of symptoms that can arise after radiotherapy treatment to the abdomen or pelvis for cancers such as cervical, prostate, bladder and bowel cancers.

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CAUSES OF PELVIC RADIATION DISEASE
Radiotherapy is a treatment that is directed towards a part of the body with the aim of destroying cancer cells that are present there. However, during treatment, damage to nearby healthy cells can occur. This damage can vary from person to person and may depend on the type of cancer, location and how much radiation is used.

WHAT ARE THE USUAL SYMPTOMS OF PELVIC RADIATION DISEASE?
Symptoms can begin during radiation treatment or not appear until years after the treatment is finished and, likewise, can range from very mild to totally debilitating. Symptoms vary depending on which organ is affected therefore we have separated the symptoms into those of the bladder, bowel or reproductive organs. Your doctor or hospital staff might be able to help you identify and define your symptoms using a questionnaire, such as the ALERT-B questionnaire.

- **Bowel:** radiation therapy can result in scarring of the bowel lining and/or weakening of the muscles that control stool movement. This can lead to the contents of the bowel (faeces) passing through the bowel too quickly. Symptoms of this may include soiling underwear (faecal incontinence) and needing to rush to the toilet during the day or waking up at night to pass stools. Excessive diarrhoea may also be caused by the adverse effect of radiotherapy on certain vital bowel functions. These include the poor breakdown of carbohydrates such as lactose and fructose, a reduction in the amount of bile acids the bowel can re-absorb and bacteria overgrowth. The bowel may become narrowed by scar tissues causing constipation or cramping pain. The blood vessels in the bowel can become more fragile, causing bleeding which can be seen in the faeces.

- **Bladder:** pelvic radiation can cause scarring to the bladder and may also weaken the pelvic floor muscles. Symptoms include a need to rush to pass urine, being unable to hold urine in, having accidents (urinary incontinence) and/or pain when passing urine. Sometimes the blood vessels in and around the bladder and prostate are fragile, which causes bleeding which can be seen in the urine.

- **Reproductive organs:** patients can experience a loss of sexual desire. Women can experience changes in the vagina including drying and loss of elasticity (caused by formation of scar tissue) which can make intercourse painful. Increased vaginal discharge may be noticed. Men may not be able to get or maintain an erection.
HOW IS PELVIC RADIATION DISEASE DIAGNOSED?
Many of the symptoms of the condition can also be caused by other problems that should be excluded first.

- **Bowel symptoms:** the main investigations include an examination of the large bowel lining using an endoscope (where a small tube with a camera on the end is inserted into the bowel via the back passage). An MRI (Magnet Resonance Imaging) scan can be used to investigate the small bowel. Stools can be tested to exclude certain infections or conditions and the muscles that help stools to control continence can also be checked for any weakness.

- **Bladder symptoms:** a cystoscopy (a camera on a thin tube designed to examine the bladder) will be carried out along with tests on urine samples to exclude other conditions.

WHAT TREATMENT IS AVAILABLE FOR PELVIC RADIATION DISEASE?
The treatment depends upon the symptoms and the organ affected.

- **Bowel:** treatment depends on the cause of the change in bowel symptoms. If bile acid malabsorption is diagnosed, then bile acid-binding medications are available. For diarrhoea, anti-diarrhoeal medications can be used and for constipation, laxatives. A referral to a dietician may be useful as certain changes in the diet, for example altering fibre intake, can help with diarrhoea, constipation and wind. The pelvic floor muscles support the bladder and bowel and normally give control during urination and when opening bowels. Pelvic floor exercises can help increase this support, improve co-ordination and provide more control of the bowels and urination. Bleeding from the back passage may not need treatment particularly if it is a small amount. However, if the bleeding is enough to cause a low blood count (anaemia) or is interfering with day-to-day activities, then medications or procedures can be used to help reduce or stop the bleeding. These may require a referral to a specialist gastroenterology centre. Where an additional diagnosis has not been found to explain the bowel symptoms, then medication and lifestyle modifications can be helpful to improve symptoms and quality of life.
• **Bladder:** pelvic floor exercises can help with urine leakage and incontinence but if these measures do not help, medications can sometimes be used. Radiotherapy can cause narrowing (scarring) in the urethra, the tube that drains the bladder to the outside, which can make passing urine difficult. This narrowing can be treated using dilators to widen the affected area. Fragile blood vessels which cause blood in the urine can be sealed with a heat treatment and the bladder can be washed out to remove any blood clots. These procedures are usually available via referral to a urologist or a continence nurse specialist.

• **Reproductive organs:** there are several treatment options which can help with pain during intercourse, bleeding, vaginal dryness or symptoms of early menopause (mood swings, hot flushes, low sex drive) after radiotherapy and your doctor can advise you on these. Some symptoms may require referral to a specialist who can discuss different treatment options such as use of hormone replacement therapy, hormone creams or dilators. Men who have problems with erections can also be referred to an appropriate specialist.

• **Self management:** being in control and organised can help you to manage the day-to-day symptoms of bowel and bladder problems including planning ahead when leaving the house. For example, knowing how long the outing will be, finding out where toilets are, taking a bag of spare clothes and wearing products such as pads to help absorb any leakage. It is also important to protect the skin around the back passage by keeping it dry and clean.

**HOW CAN PELVIC RADIATION DISEASE AFFECT YOU?**

The condition can impact a person in many ways. Symptoms are often embarrassing and debilitating and may occur intermittently over the long term. As a result, many patients suffer with feelings of frustration and hopelessness. It is important to discuss any negative feelings with your doctor, so that appropriate support can be organised.

Some symptoms can clear up on their own but, unfortunately, others do not completely go away and may last for years after radiotherapy treatment has finished. The effects may be very mild with minimal impact on day-to-day living but sometimes they may be very troublesome and interfere with daily activities.
WHAT FURTHER RESEARCH NEEDS TO BE DONE ON PELVIC RADIATION DISEASE?

Further research into the underlying mechanisms that cause pelvic radiation disease could lead to discovery of a reversible factor. Treatment could then target the underlying changes, rather than just treatment of symptoms.

WHAT TO ASK YOUR DOCTOR?

• Have I been assessed using the ALERT-B questionnaire to identify if I may benefit from seeing a specialist for any of my symptoms?

• May I be referred to a dietician to see if there are any changes to my diet that may help with my symptoms?

• How often do I need follow-up?

• Would it be appropriate for me to be referred for counselling or other psychotherapy support?

For more information about research in this area please contact Guts UK.

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