

# Urologic and gastrointestinal symptoms after gynecologic cancer treatment

Annica Holmqvist

Senior Consultant, MD, PhD  
Departement of Gynecologic Oncology  
Linköping University Hospital, Sweden

➤ I have no competing interest to declare

# Gastrointestinal symptoms

## Radiotherapy



- ▶ 80% of the patients with pelvic radiotherapy treatment receives chronic changes in the gastrointestinal tract
- ▶ 50% affects their quality of life
- ▶ Inflammation, fibrosis and atrophy, "a scar in the bowel"
- ▶ A wound that does not heal...
- ▶ Reduced elasticity and function of the bowel, get worse over time...
- ▶ Vitamin and mineral deficiencies, B12, Folic acid, D-vitamin, calcium...



# Gastrointestinal symptoms

## Chemotherapy



- ▶ Chemotherapy kills cancer cells but also rapidly proliferating normal cells in the small and large intestine
- ▶ Inflammation → atrophy of the bowel mucosa
- ▶ Disturbed balance of the microbiota of the intestine
- ▶ Damages of the enteric nerve system and GI hormone secretion -affects the bowel movement...



# Gastrointestinal symptoms

## Bile acid malabsorption



- ▶ Affects 70% of the patients with radiotherapy
- ▶ 25% of the patients with chemotherapy
- ▶ Inflammation and atrophy of the small intestine ➡ reduced absorption of bile acids
- ▶ Bile acids continues to the large intestine -causes inflammation...
- ▶ Leads to diarrheha (usually 5-15/day) and fecal incontinence
- ▶ Deficiencies, vitamin-D and calcium

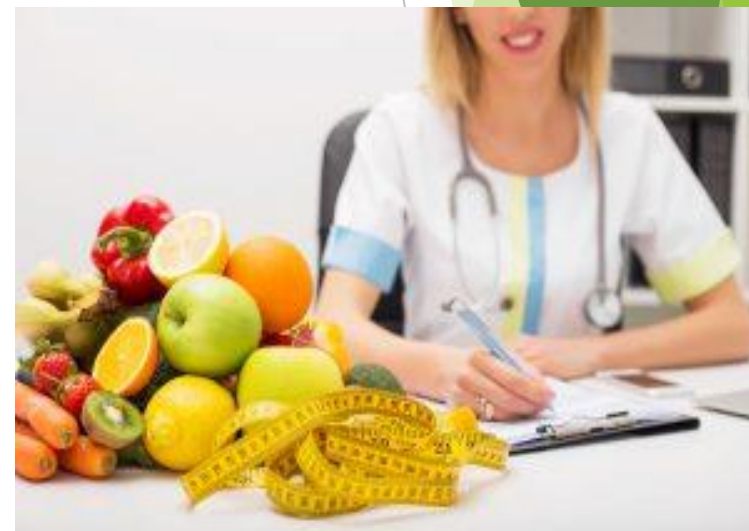
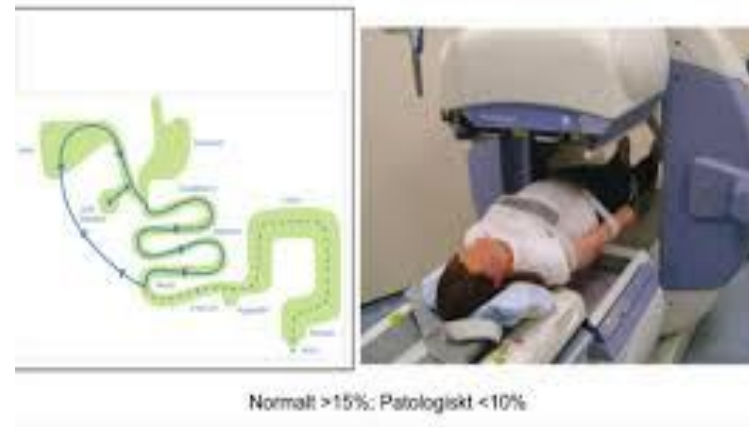
### Investigation

- ▶ <sup>75</sup>SeHCAT -synthetic bile acid -marked with an isotop -the activity measured with a gamma-camera, performed and interpreted by a gastroenterologist-complicated test..

### Treatment

- ▶ Bile acid sequestrants. Treatment based on anamnestic and clinical findings
- ▶ Questran, Lestid, Cholestagel....
- ▶ Dietician - reduce fat-intake

Diagnos ställs med <sup>75</sup>SeHCAT  
"tillämpad fysiologi i diagnostiken"



# Gastrointestinal symptoms

## Bacterial overgrowth of the small intestine (SIBO)



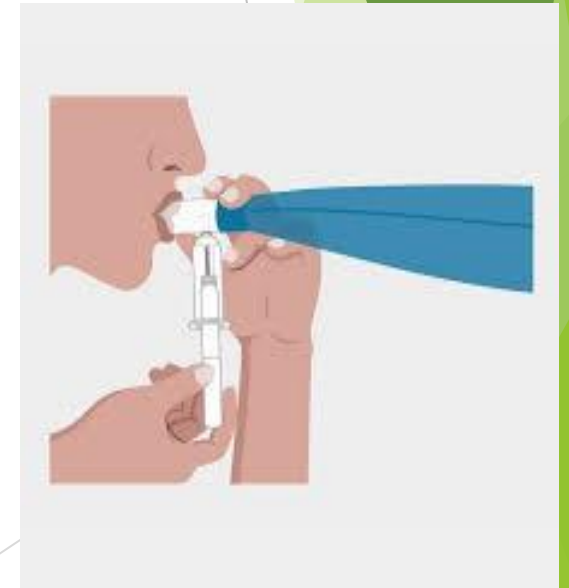
- ▶ 45% of the patients with radiotherapy
- ▶ 25% of the patients with chemotherapy
- ▶ Bacterias in the small intestine ➡ inflammation..
- ▶ Flatulence, diarrhea

### Investigation

- ▶ Exhalation test -difficult to interpret....

### Treatment

- ▶ Due to clinical and anamnestic findings -Metronidazol or Doxyferm 10 days





# Gastrointestinal symptoms

## Pancreasinsufficiency

- ▶ Radiation to the upper part of the abdomen
- ▶ Affects around 5%
- ▶ Reduced ability to produce enzymes from pancreas
- ▶ When 10% of the pancreas function persist
- ▶ Diarreha

### Investigation

- ▶ Faeces elastas -simple test

### Treatment

- ▶ T Creon



# Gastrointestinal symptoms



## Other causes...

- ▶ Anxiety, stress
- ▶ Inflammatory bowel disease (Chrons disease, Ulcerative colitis)
- ▶ Hypo/Hyperthyreosis





# Gastrointestinal symptoms



## General treatment

- ▶ Reflux- acid blocking medicines (Omeprazol etc..)
- ▶ Diarrhea - Imodium, bulking agents (Vi-siblin, Inolaxol)
- ▶ Exclude lactose for 2-3weeks
- ▶ 50% lactose intolerant after radiotherapy (pelvis)
- ▶ Worsens by food with high fat content, smoked meat, legumes (beans, peas, lentils)
- ▶ Use "clean products" for sugar, avoid too much fibres, chewing gum, eat white bread instead...
- ▶ Contact with dietician
- ▶ Patient information regarding dietary advice...



Kostråd till dig som fått strålbehandling mot bäckenet och har magtarmbesvär

Efter avslutad strålbehandling mot nedre del av buken, bäckenet, kan en del magtarmbesvär kvarstå, ex diarré, förstoppning, gasbesvär, uppkördhet. Hur magen och tarmen reagerar är individuellt och en del kan bli hjälpta med ändrat matintag. Det är viktigt att inte begränsa matintaget mer än nödvändigt.

- Ät regelbundna måltider under dagen, hellre flera mindre portioner än några få större; frukost, lunch och middag samt 2-3 mellanmål kan vara lämpligt.
- Ät i lugn och ro och tugga maten ordentligt.
- Undvik svårsmälta fibrer ifrån råris, bröd med hela korn, råa gryn, frön och nötter samt baljväxter.
- Gröt av havregryn, kokta grönsaker, skalad frukt samt bär innehåller mjuka fibrer som ofta tolereras bättre.
- Man kan också vara känslig för starkt kryddad mat.

### Råd vid diarrébesvär:

- Ett högt fettintag kan förvärra dina diarréer. Var därför försiktig med mat som innehåller mycket smör, grädde, majonnäs, crème fraîche, feta ostar, ex feta såser, friterad och panerad mat, wienerbröd, choklad, desserter. Fördela fettintaget över dagen.
- Efter behandling kan vissa bli känsliga för laktos, mjölksocker. För att minska besvär kan man prova att välja laktosfria/låga mejeriprodukter.
- Vissa livsmedel kan verka stoppande i tarmen ex pasta, ris, vitt bröd, "mjölmalt" såsom pannkakor, osötade blåbär, te.
- Undvik lösande livsmedel som torkad frukt, moget päron, kiwi, messmör, kaffe och stora mängder sött juice.
- Tänk på att dricka ordentligt. Drick klunkvis över dagen. Vid rikliga diarréer är det bra att tillföra extra salt, exempelvis använda vätskeersättning.

### Råd vid gasbesvär/bullrig mage:

Besvären blir oftast mindre eller lindrigare om man minskar intaget av eller helt utesluter gasbildande och fiberrika livsmedel:

- Lök, kål, ärtor, bönor, linser, majs, paprika, jordärtskocka, kronärtskocka, selleri, svamp, rädisa, popcorn.

[www.regionostergotland.se](http://www.regionostergotland.se)

Region  
Östergötland



# Gastrointestinal symptoms

## Rectal bleeding



- ▶ Radiotherapy -increases the amount of small blood vessels in the bowel (telangiectasies) which could give problems with bleeding
- ▶ Affects 16-51%
- ▶ Around 6% are having severe bleeding symptoms that affects their daily activity and quality of life
- ▶ Usually starts 3-12 months after finishing radiotherapy treatment
- ▶ Often worst after around 3-4 years ....

## Investigation

- ▶ Exclude other causes of the bleeding -coloscopy/gastroscopy, biopsies

# Gastrointestinal symptoms

## Rectal bleeding



### Treatment

- Treat the diarrheha - a continous damage of the bowel mucosa give rise to inflammation (Imodium, opium tincture)
- Suppository/ointment Xyloproct/scheriproct -anti-inflammatory (hydrocortison/prednisolon+lidokain)
- Andapsin enema. T Adapsin 1g x 2 4.5 ml water applied in rectum 2 ggr/day for 4 weeks.  
73% effect in studies 18 prostata and 5 cervixcancerpatients.

(McElvanna, A. Colorectal Disease 2013)



# Gastrointestinal symptoms

## Rectal bleeding



- 5-ASA - Asacol 400mg 2x2 -most commonly used to treat inflammatory bowel diseases
- T Metronidazol -reduces inflammation
- Argon plasma coagulation (APC) -diatermi of the tissue by using argon gas..
- **Warning!** Do not use this method if the patient previously have had brachytherapy, risk for necrosis/fistulas
- Difficult for ischemic tissue to heal -less blood vessels....  
(Hortelano E. Rev Esp Enferm Dig. 2014, Weiner J. Pract Radiat Oncol 2017)
- Hyperbar oxygen treatment (HBO)
- Studies 89-95% have effect of treatment. Around 30% very good effect  
(Oscarsson N. Int J Radiation Oncol 2013. Thomas R. McCarty. Gastroenterology and Hepatology 2019)



# Urinary tract symptoms

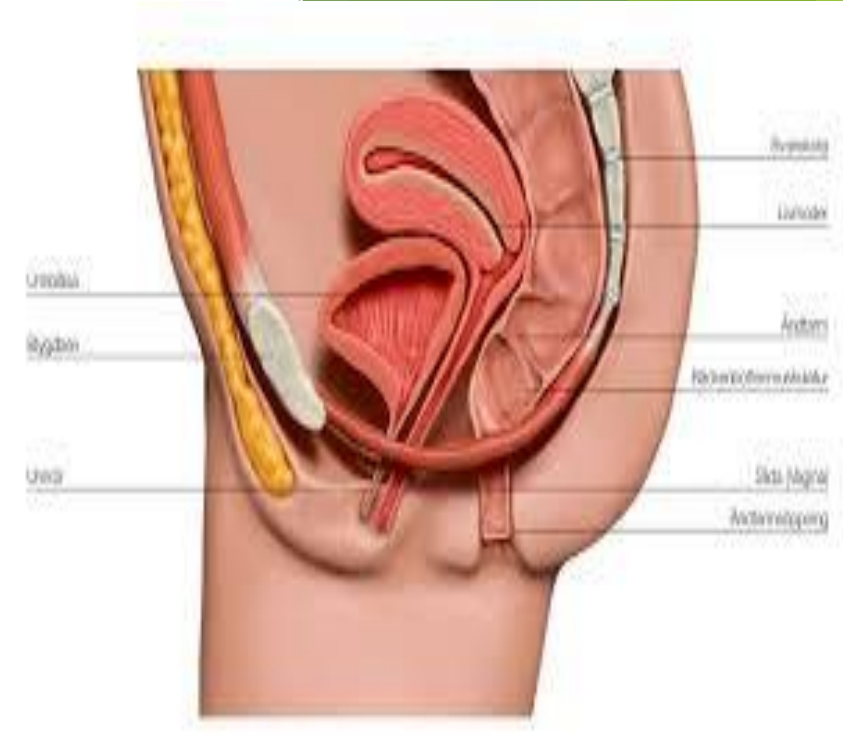


## Radiotherapy

- Urinary tract symptoms are common after pelvic radiotherapy
- In a study by ours on patients with primary uterine tumors with pelvic RT ~ 70% had some grade of symptoms 1 year after finishing radiotherapy  
(Holmqvist et al. Clinical and Translational Oncology 2021)
- Caused by damaged nerves
- Atrophy/fibrosis of the bladder/urine tubes/leader
- The urine bladder -stiff, unelastic, reduced ability to preserve urine, frequent visits to the toilet, overactive bladder...
- Caused by atrophy -lack of oestrogen in the vagina/end of the urinary tube (reduced amount of estrogen receptors)

## Chemotherapy

- Damages the epithelial cells in the urinary tract/vagina -causes inflammation
- Some type of chemotherapies could cause acute hemorrhagic cystitis  
cyclophosphamide/ifosfamide (during the drug administration Mesna is given - inactivate the toxic metabolite acrolein and protects the bladder mucosa)
- Increases the risk of infections and later atrophy, dry mucous membranes...





# Urinary tract symptoms

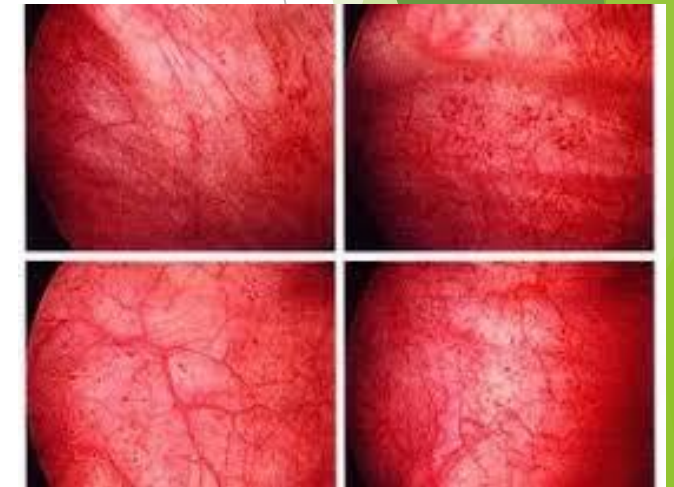
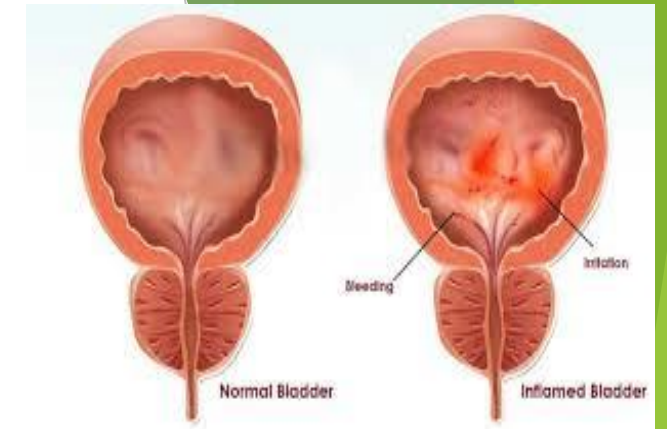
## Radiotherapy



### Radiotherapy-induced cystitis

- ▶ Severe inflammation of the bladder mucosa (necrotic wounds..)
- ▶ Frequent visits to the toilet, pain when urinate, affects 10-15%
- ▶ Macroscopic hematuria 5%
- ▶ Cystoscopy - refere to Urologist
- ▶ Instillations into the bladder with hyaluronic acid (Uracyst, Hyacyst, Laluril..) protects the bladder surface so it could heal..
- ▶ Hyperbar oxygen treatment -Huddinge, Stockholm and Sahlgrenska, Gothenburg
- ▶ 76-85% had effect of the treatment, around 30% very good effect...

(Oscarsson N. *Int J Radiation Oncol* 2013. Thomas R. McCarty. *Gastroenterology and Hepatology* 2019)

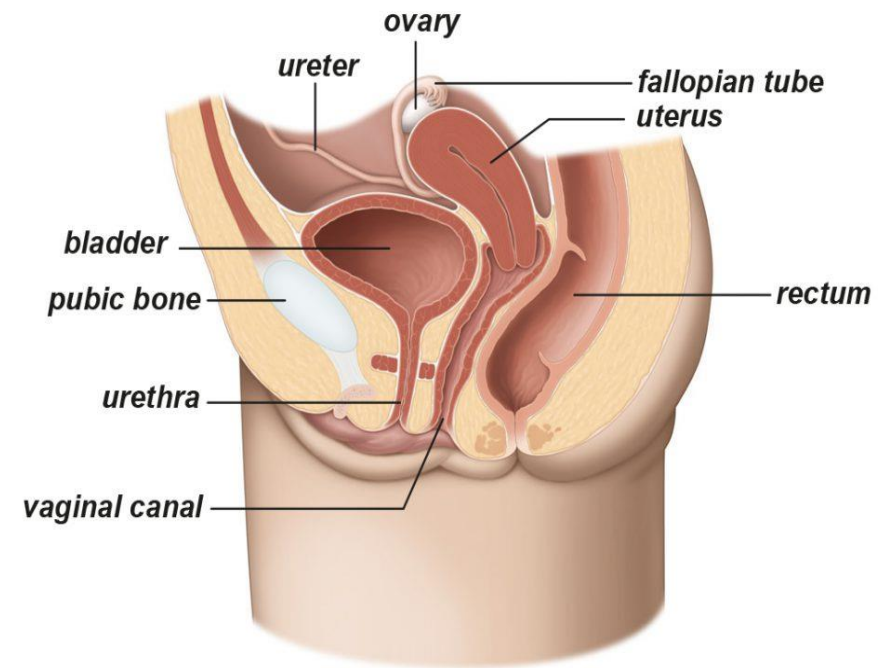


# Urinary tract symptoms

## Radiotherapy

### Stuprös-urethra

- The urethra gets stiff like a downpipe (stuprör..)
- Constant leakage of urine (even at night..) due to severe side effects caused by irradiation
- Fibrosis around the urinary tube
- Peri-urethral injections (hyaluronic acid/polyakrylamid)
- Must be performed by a senior gynecologist



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*Thank you for your attention!*