Supplementary Material 1 Gastrointestinal and genitourinary toxicities from CTCAE version 5 (CTCAE, 2017)

Terms	Definition	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Gastrointestin	al toxicities					
Diarrhea	A disorder character- ized by an increase in frequency and/ or loose or watery bowel movements	Increase of <4 stools per day over baseline; mild increase in ostomy output compared with baseline	Increase of 4–6 stools per day over baseline; moderate increase in ostomy output compared with baseline; limit- ing instrumental ADL	Increase of ≥7 stools per day over baseline; hospital- ization indicated; severe increase in ostomy output compared with baseline; limiting self-care ADL	Life-threatening consequences; urgent interven- tion indicated	Death
Proctitis	A disorder character- ized by inflammation of the rectum	Rectal discomfort, intervention not indicated	Symptomatic (e.g., rectal discomfort, passing blood or mucus); medical intervention indicated; limiting instrumental ADL	Severe symptoms; fecal urgency or stool incontinence; limiting self-care ADL	Life-threatening consequences; urgent interven- tion indicated	Death
Rectal fistula	A disorder characterized by an abnormal communication between the rectum and another organ or anatomic site	Asymptomatic	Symptomatic, invasive intervention not indicated	Invasive intervention indicated	Life-threatening consequences; urgent interven- tion indicated	Death
Rectal hemorrhage	A disorder charac- terized by bleeding from the rectal wall and discharged from the anus	Mild symptoms; intervention not indicated	Moderate symp- toms; intervention indicated	Transfusion indicated; invasive intervention indicated; hospitalization	Life-threatening consequences; urgent interven- tion indicated	Death
Genitourinary	toxicities					
Bladder perforation	A disorder character- ized by a rupture in the bladder wall	-	Invasive intervention not indicated	Invasive interven- tion indicated	Life-threatening consequences; organ failure; urgent opera- tive intervention indicated	Death
Cystitis (noninfec- tive)	A disorder character- ized by inflammation of the bladder which is not caused by an infection of the urinary tract	Microscopic hematuria; min- imal increase in frequency, urgency, dysuria, or nocturia; new onset of incontinence	Moderate hematuria; moderate increase in frequency, urgency, dysuria, nocturia or incontinence; urinary catheter placement or bladder irrigation indicated; limiting instrumental ADL	Gross hematuria; transfusion, IV medications, or hospitalization indicated; elective invasive interven- tion indicated	Life-threatening consequences; urgent invasive intervention indicated	Death
Dysuria	A disorder charac- terized by painful urination	Present	-	-	-	-
Urinary fistula	A disorder character- ized by an abnormal communication between any part of the urinary system and another organ or anatomic site	-	Symptomatic, inva- sive intervention not indicated	Invasive intervention indicated	Life-threatening consequences; urgent invasive intervention indicated	Death
Urinary frequency	A disorder character- ized by urination at short intervals	Present	Limiting instrumental ADL; medical man- agement indicated	-	-	-
Urinary incontinence	A disorder characterized by inability to control the flow of urine from the bladder.	Occasional (e.g., with coughing, sneezing, etc.), pads not indicated	Spontaneous; pads indicated; limiting instrumental ADL	Intervention indicated (e.g., clamp, collagen injections); oper- ative intervention indicated; limiting self-care ADL	-	-

Supplementary Material 2 Study schema.

All cervical cancer patients treated with HDR brachytherapy

- Based on review of census of PGH Gyne Onco and Rad Onco



Cervical cancer patients fitting in the inclusion criteria (Table 1) (STUDY POPULATION)



Review of Cancer Institute (CI) charts which contain Gyne Onco and Rad Onco progress notes

- Retrieve information on age, stage, date of latest follow-up, smoking history, body mass index ("patient-related factors")
 - Retrieve information on overall treatment time, EBRT machine used, midline shielding, brachytherapy fractionation and planning technique used

("treatment-related factors")



Review of incidence of toxicities and recurrences



Correlate the patient- and treatment-related factors with the occurrence of toxicities and recurrences