Study	Para-aortic LN irradiation using Proton Beam Radiotherapy for Isolated Para-aortic recurrence of Gynecologic cancer
Principle Investigator	Joo Young Kim, M.D.
Contact	Joo Young Kim, M.D. jooyoungcasa@ncc.re.kr; +82-31-920-1724
Additional Info	
Institution	National Cancer Center Korea
Recruitment Status	1. Study Start Date: 2. Estimated Primary Completion Date: 3. Estimated Study Completion Date: 4. Estimated Enrollment:
Study Purpose	
Primary Aims	1. To evaluate the effect of proton beam radiotherapy to the para-aortic LN (PAN) chain as a first treatment modality or re-treatment modality after previous irradiation at the same site (2 yr progression-free survival).
Secondary Aims	1. To evaluate whether proton beam radiotherapy reduced radiation-associated morbidity and the patients' quality of life.
Methods	1) proton beam : 45GyE to the microscopical disease - reduction of field - 60Gy or more depending on the size of the gross node enlargement (proton RBE 1.1) fraction size 2.5 Gyx18F --> cone-down Boost depending on the tumor size. The dose can be reduced to 40GyE/16F if systemic chemotherapy of a kind which can increase the radiation effect around 10%. Area of microscopic disease 45GyE/18F/3.5wks(EQD2 46.8 Gy) 50Gy for node with short diameter ≤1cm (EQD2 52 Gy) 55 Gy for node 1< ≤1.5cm (EQD2 57.2 Gy) 60 Gy for node 1.5< ≤ 2.0cm (EQD2 62.4 Gy) 65 Gy for node 2.0< ≤2.5 cm (EQD2 67.6 Gy) 70 Gy for node 2.5< ≤3cm (EQD2 72.8 Gy) * Biologically equivalent dose in 2 Gy fractions (EQD2) 2) Combined chemotherapy : cisplatin weekly, 5-FU/cisplatin, Taxol-based regimen, or other agents which are being used for the other gynecologic protocol

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Eligibility	1) Patients with Histologically confirmed gynecologic cancer who have para-aortic LN as the only systemic recurrence out of pelvis a) Postoperative- or Postradiotherapy-recurrence at the para-aortic LN area b) Prior radiotherapy± chemotherapy to the same area of interest is allowed when the recurrent lesion is resistant to other modality or there is a residual lesion after salvage chemotherapy. 2) Disease-specific criteria ①Uterine cervical cancer : isolated recurrence at the para-aortic LN chain ②Uterine cancer (endometrial cancer, uterine sarcoma, undifferentiated cancer of the uterine body): Isolated recurrence at the para-aortic LN chain or symptom-causing metastatic para-aortic recurrence regardless whether chemotherapy has been given or not. ③Ovarian cancer : Isolated recurrence at the para-aortic LN chain or symptom-causing metastatic para-aortic recurrence regardless whether chemotherapy has been given or not. ④ Other gynecologic cancer with isolated para-aortic, or symptom-producing para-aortic metastases even if the lesion to be treated by proton beam is not single lesion * The status of an isolated recurrence is determined from the general metastatic work-up such as positron emission tomography, abdomino-pelvic CT and/or MRI, or laparoscopic or other surgical exploratory procedures if necessary as one of the staging procedure or as an attempt to remove the lesion 3) Age 18-80 years 4) Eastern Cooperative Oncology Group (ECOG) Performance Status (PS) 0-2
Exclusion Criteria	