ONCODAILY MEDICAL JOURNAL

abstract

# Sub-Renal Modified Prophylactic Para-Aortic Irradiation in MRI-Suspected Pelvic Node–Positive Cervical Cancer: A Practical Adaptive Strategy for Low-Resource Settings

**Jannatul Ferdause, Nowshin Taslima Hossain, Aditi Paul Chowdhury, Rubama Karim, Sura Jukrup Momtahena, Suriana Sultana, Saiful Huq**

DOI: 10.69690/ODMJ-018-3101-6535

AMSTRO
Asia and Middle East Society of Therapeutic Radiation and Oncology
Affiliated with ASTF

*abstract*

# Sub-Renal Modified Prophylactic Para-Aortic Irradiation in MRI-Suspected Pelvic Node–Positive Cervical Cancer: A Practical Adaptive Strategy for Low-Resource Settings

**Author:** Jannatul Ferdause[1], Nowshin Taslima Hossain[1], Aditi Paul Chowdhury[1], Rubama Karim[1], Sura Jukrup Momtahena[1], Suriana Sultana[2], Saiful Huq[3]

**Affiliation:** [1]Ahsania Mission Cancer and General Hospital, Dhaka, Bangladesh
[2]Delta Hospital Limited, Dhaka, Bangladesh
[3]UPMC Hillman Cancer Center and University of Pittsburgh School of Medicine,Pittsburgh, USA

**DOI:** 10.69690/ODMJ-018-3101-6535

**Introduction:** Cervical cancer is one of the most common malignancies among women in Bangladesh, where the majority present with locally advanced disease requiring definitive chemoradiation. However, due to inadequate radiotherapy facilities and limited access to advanced imaging such as PET-CT, leads to long awaiting period(>6 weeks) and hinder accurate para-aortic lymph node (PALN) staging, respectively. Patients with MRI-suspected non bulky pelvic lymph node involvement who may not ideal candidate for para aortic irradiation as per guideline, may experience unrecognized para-aortic disease progression during treatment delays, leaving microscopic PALN metastases untreated. To address this challenge, we implemented a sub-renal modified prophylactic para-aortic irradiation (PPAI) strategy for patients with non-bulky pelvic node–positive disease and evaluated its safety and feasibility.

**Methodology:** This single-institution retrospective analysis included 110 patients with FIGO stage IIB–IVA cervical cancer and MRI-suspected non pelvic lymphadenopathy treated between January 2023 and June 2024. All patients underwent chemoradiation with 50.4 Gy pelvic RT, weekly cisplatin (40 mg/m$^2$), involved-node boost, and HDR brachytherapy. Sixty patients received additional sub-renal modified PPAI to 45 Gy using 3DCRT, while fifty received pelvic-only RT. Outcomes analyzed included para-aortic recurrence, para-aortic recurrence-free survival (PA-RFS), and toxicity.

**Results:** At a median follow-up of 24 months, para-aortic recurrence in the PPAI cohort was seen in 6.6% versus 18% in the pelvic-only cohort (p = 0.03). Two-year PA-RFS was significantly higher in the PPAI group (91% vs. 78%). Grade ≥3 gastrointestinal toxicity remained low, 4% versus 3%, with no significant renal or hematologic toxicity observed.

**Conclusion:** Sub-renal modified PPAI represents a safe, feasible, resource-considerate approach that improves regional control for MRI-suspected pelvic node–positive cervical cancers in limited PET-CT and inadequate radiotherapy facility settings. Prospective validation is advised.

**Conflict of interests:** The authors declare no conflict of interests.

**Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.