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Cervix

Patterns of relapse after adjuvant (chemo)radiation for cervical cancer in a phase III clinical trial (PARCER): an evaluation of updated NRG Oncology /RTOG target delineation guidelines

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AIM

NRG Oncology/RTOG recently published updated contouring guidelines for intensity modulated radiotherapy in postoperative treatment for endometrial and cervical cancer. The present study was designed to evaluate the implications of newly published guidelines.

METHODS

Patients (n = 300) recruited in Phase III RCT of adjuvant (chemo)RT for cervical cancer (NCT01279135) were included for understanding patterns of relapse. For those with pelvic relapse, RT structure sets, treatment plans and diagnostic images at relapse were imported on the treatment planning system. Rigid registration was performed with treatment planning images that contained the delineated PTV and radiation dose information. Gross tumour volume at time of relapse was delineated on the diagnostic scans and superimposed on the radiotherapy treatment scans. The site of pelvic relapse was categorised as "within field of old RTOG/PARCER target delineation guidelines" or/and "within field of new NRG/RTOG guidelines" and proportions of recurrences contained within the two guidelines were compared. p-value of <0.05 was considered statistically significant. Additionally, IMRT treatment plans were generated based on the new guidelines for a limited set of patients to see if these new guidelines increased the organ at risk doses.

RESULTS

Most common form of relapse was distant metastasis (15%). Pelvic relapse rate in our study was 8%. Overall 9/19 relapses were encompassed in the old RTOG/PARCER contouring guidelines while 12/19 were encompassed within the new RTOG 2021 contouring guidelines. This corresponded to a further 1% reduction in local relapses (p 0.007). Dose to rectum was marginally increased with the new contouring, with no difference in other organs at risk. Salvage treatment was offered in 25/60 patients who relapsed. In patients who received local treatment after relapse had a mean survival after relapse of 27.2 months compared to 8 months who received supportive care alone.

CONCLUSION

Our study supports the use of newly published NRG/RTOG contouring guidelines in patients with cervical cancer who have undergone hysterectomy. Further data is needed to ascertain if anterior extension of the CTV is needed as in PARCER trial.