Abstract: BACKGROUND Retrospective evaluation of the previously treated carcinoma cervix patients for the significance of overall treatment time in Carcinoma cervix patients AIM To look at the effect of overall treatment time and outcome of Carcinoma cervix patients in the context of Chemotherapy and Brachytherapy.

MATERIALS AND METHODS Details of hundred and two patients with carcinoma cervix(all stages) treated in the past fifteen years in our institute was collected and analyzed for the outcome and factors that can contribute to it

RESULTS Out of the 102 patients, 66 patients (64.7) received concurrent chemotherapy and 36 did not (35.3), 70 patients (68.6) received brachytherapy where as 32 patients (31.4) did not. Among the patients who had chemoradiation 49 underwent brachytherapy. 79 patients (77.5) were disease free at the time of last follow up and 23 patients (22.5) had recurrent or progressive disease. In the patients who had chemoradiation followed by brachytherapy, the mean duration of completion of external radiation therapy was 46.89 days (SD 11.504) and the mean duration of overall treatment (including brachytherapy) was 61.05 days (SD 12.89). Mean duration of treatment within 60 days with or without brachytherapy had significance in the outcome of treatment (p value 0.004 for concurrent chemoradiation followed by brachytherapy).

CONCLUSIONS Overall treatment time in carcinoma cervix patients is an important factor which can influence the outcome.

Keyword: Overall treatment time, Cancer cervix, Brachytherapy, Chemoradiation

SIGNIFICANCE OF OVERALL TREATMENT TIME IN THE CONTEXT OF CHEMORADIATION AND BRACHYTHERAPY IN CARCINOMA CERVIX

INTRODUCTION: Carcinoma cervix is the second most common malignancy in Indian women and concurrent chemoradiation followed by brachytherapy is the modality of treatment in locally advanced cases. Data from patients treated with radiotherapy and Low dose rate (LDR) brachytherapy shows Overall Treatment time (OTT) to be an important prognostic factor. However, its importance with chemo-radiation and High dose rate (HDR) brachytherapy needs further evaluation. AIM: Retrospective evaluation of the significance and correlation between overall treatment time and outcome in patients treated for carcinoma cervix with chemoradiation followed by brachytherapy or external beam radiation therapy boost (EBRT).

METHODS AND MATERIALS: Details of hundred and two patients of locally advanced carcinoma cervix who attended radiotherapy OPD for follow up was collected and analyzed. Effect of overall treatment time on the outcome was determined among those who received chemoradiotherapy and either HDR brachytherapy or EBRT boost.

RESULTS: Mean age of the patients was 49 years, ranging between 30 to 70 years.

Fig 1: Bar diagram representing number of patients of each stage in this study Out of the 102 patients, 66 patients (64.7%) received concurrent chemotherapy with cisplatin. Following EBRT alone or EBRT plus chemotherapy, brachytherapy was carried out in 70 patients (68.6%) and 32 patients (31.4%) received EBRT boost (fig 2). Among the patients who had chemoradiation 49 underwent brachytherapy.

METHODS: Brachytherapy boost with HDR technique was planned for patients with high suspicion of residual disease at the time of last follow up.

CONCLUSIONS: Overall treatment time in carcinoma cervix patients is an important factor which can influence the outcome.

Figure 2: Diagram illustrating the number of patients who received brachytherapy and those who received EBRT boost. The mean duration of completion of external radiation therapy in patients who had chemotherapy plus radiation was 46.89 days (SD =11.504) and the mean duration of overall treatment (including brachytherapy) was 61.05 days (SD=12.89) as shown in Table 1.
Table 1: Minimum, mean and maximum duration of EBRT and brachytherapy (in days) among the 102 patients. 79 patients (77.5%) were disease free at the time of last follow up and 23 patients (22.5%) had recurrent or progressive disease. Among the 49 patients who underwent chemoirradiation followed by HDR brachytherapy, the overall treatment time was significantly lower in patients who did not have recurrence (EBRT + brachytherapy mean 61 days vs. 76 days, p=0.004 respectively) (Table 2).

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
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<tbody>
<tr>
<td>EBRT PLUS CHEM DURATION</td>
<td>32</td>
<td>88</td>
<td>46.89</td>
</tr>
<tr>
<td>TOTAL DURATION</td>
<td>38</td>
<td>98</td>
<td>61.05</td>
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Table 2: Relation between duration of treatment time and recurrence in patients who received concurrent chemotherapy and brachytherapy.

<table>
<thead>
<tr>
<th>MEAN</th>
<th>Std DEVIATION</th>
<th>P Value</th>
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<tbody>
<tr>
<td>YES(49 pts)</td>
<td>6 DAYS</td>
<td>7</td>
</tr>
<tr>
<td>NO(41 pts)</td>
<td>41 DAYS</td>
<td>11</td>
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**DISCUSSION:**
Chemoirradiation followed by brachytherapy is the standard of care for locally advanced carcinoma of cervix. Among the 102 patients, 79 (77.5%) were disease free at the time of last follow up and 23 (22.5%) had recurrent or progressive disease. Among the 49 patients who underwent chemoirradiation followed by HDR brachytherapy, the overall treatment time was significantly lower in patients who did not have recurrence (EBRT + brachytherapy mean 61 days vs. 76 days, p=0.004 respectively) (Table 2).

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