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Study of Multimodality Management of Carcinoma Cervix

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Abstract-*Carcinoma Cervix has been recognized as a malignant neoplasm with characteristics of local recurrence, capacity to metastasis. Concurrent chemoradiotherapy (CCRT) is regarded as the standard treatment for locally advanced uterine cervical cancer (LACC), including stage Ib2-IVa disease [International Federation of Gynecology and Obstetrics (FIGO) staging].This study was conducted at King George Hospital, Visakhapatnam with 60 female patients. According to FIGO staging 20 patients are stage II, 35 patients as stage III, and 5 patients are stage IV a, received concurrent chemo radiation. In our study 15 patients developed Grade I skin reaction and 10 patients developed Grade II skin reactions. Out of 60 patients, 55 patients showed complete response, 5 patients showed partial response..*

Key words-*Carcinoma cervix, FIGO staging, Concurrent Chemo radiation, Brachytherapy, response evaluation, loco regional control, overall survival*

I. Introduction

Cervical cancer is fourth most cancer globally, continues to be most common genital cancer encountered in clinical practice in rural India[1,2]. With pap smear test in western countries lead to a drastic decline of invasive carcinoma cervix, but not so in India due to advanced stage presentation. Human papilloma virus is cause[3] .It is highly curable cancer either by surgery or radiotherapy for early stage disease and chemo radiotherapy for advanced stages.

Cervix being accessible organ it lends itself effectively for screening and preventive measures. Several randomized controlled trials (RCTs) reported significant survival advantages for patients who received concurrent chemoradiotherapy (CCRT) compared with those who received radiation therapy (RT) alone [,4,5,6]. CCRT has also become a standard treatment for locally advanced cervical cancer (LACC), Many advances have taken place in the last decade in the management of carcinoma cervix in teletherapy like 3D Conformal radiotherapy, Intensity modulated radiotherapy, and Image Guided radiotherapy with Brachy therapy used to improve the results by reducing the morbidity.

Treatment of carcinoma cervix is usually by stage wise early stage I a to I b1 either by surgery or radiotherapy. All cases of carcinoma cervix from Ib2 to IV a was treated by concurrent chemo radiotherapy. Radiotherapy by external beam radiotherapy was by conventional radiotherapy or newer techniques like 3D conformal radiotherapy, Intensity modulated radiotherapy, and Image Guided radiotherapy with Brachy therapy by Intracavitary radiotherapy. Chemotherapy with cisplatin weekly once along with radiation.

II. Materials And Methods

This study was undertaken at King George Hospital Visakhapatnam. The clinical material composed of patients who attended radiotherapy outpatient department and patients who underwent concurrent radiotherapy.

INCLUSION AND EXCLUSION CRITERIA

The inclusion criteria was histologically proven squamous cell carcinoma or adeno carcinoma cervix. Age – 25 years to 65 years – females, hemoglobin more than 10 grams, Performance status - 1,2.
Exclusion criteria were other than squamous cell or adeno carcinoma cervix.
Age – More than 65 years – females, hemoglobin less than 10 grams, Poor Performance status, not medically fit for concurrent radiotherapy.
After admission, all patients are examined in detail with special regard to the following:

LOCAL EXAMINATION

Per-abdominal examination, per-vaginal examination, per-rectal examination, bilateral supra clavicular fossa examination and staging was done by FIGO staging[7]

SYSTEMIC EXAMINATION
Cardio vascular system , Respiratory system, Central Nervous System are examined.

INVESTIGATIONS
Complete blood picture for hemoglobin status and cell counts, renal function test for blood urea and serum creatine, liver function test, ultrasound abdomen or Computerized Tomography for abdomen or MRI abdomen, X-Ray chest PA view, viral markers, blood grouping and typing.
All the cases after thorough and clinical examinations and investigations, clinical diagnosis of Carcinoma cervix is made and patients were subjected to punch biopsy for confirmation of diagnosis. After confirmation of diagnosis by histological biopsy ,

III. Observation And Analysis

Of the 60 patients, 40 patients complaining of bleeding per-vagina and 15 patients white discharge and 5 patients low backache with duration of symptoms of 6 months to one year. On examination the tumor bleeds on touch, the growth may be proliferative or exophytic, infiltrative growth destroying cervix uteri, extends onto vaginal fornices and parametrium.
A total of 60 patients underwent concurrent chemo radiotherapy with weekly cisplatin 40 mg/m2 along with external beam radiotherapy. 50.4 Gy/28 fractions, weekly 5 fractions over a period of 5 ½ weeks. High dose of brachy therapy (7 Gy/fraction) was administered per week, total of three fractions after external beam radiotherapy[8,9,10,11].
The youngest patient was 30 years old and the oldest was 65 years old. Peak age of incidence was 50 years – 59 years

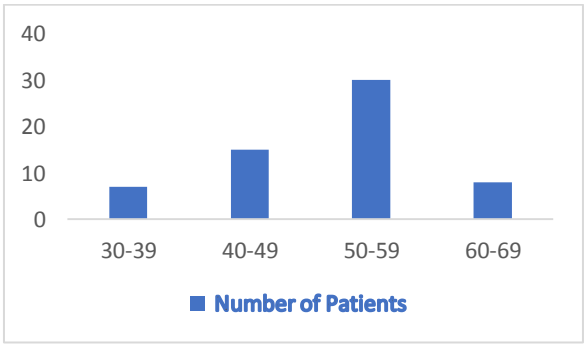

Fig 1: Age Distribution

Figure 2 represent that out of 60 patients, FIGO stage II carcinoma cervix cases are 20 and FIGO stage III cases are 35 and stage IV cases are 5.. In our study most common presentation are noticed in stage III.

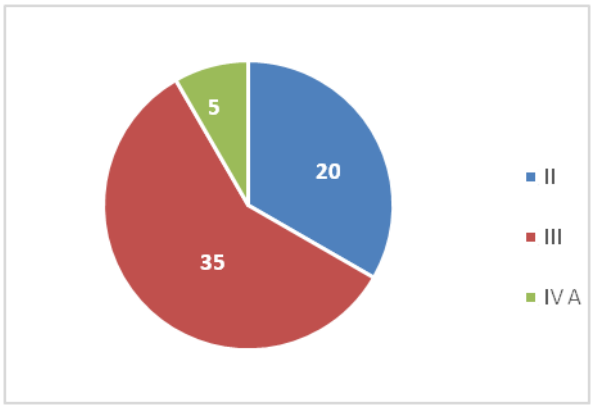

Fig 2.Types of Stage Distribution

Figure 3 shows that out of 60 carcinoma cervix cases squamous cell histology is 52 in number and adeno cell histology is 8. Most common is squamous cell carcinoma.

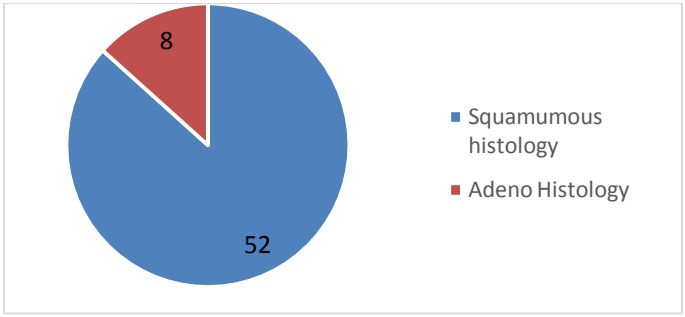

Fig 3. Type of Histology

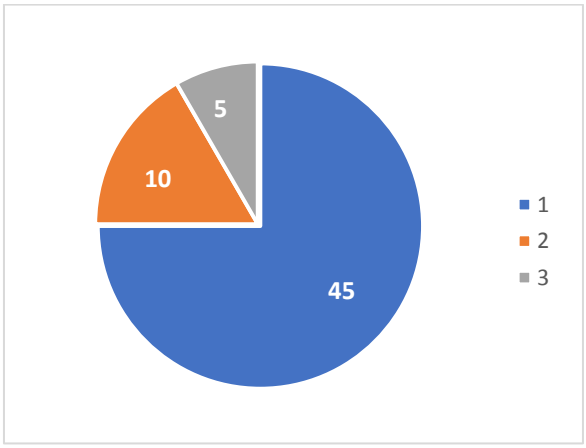

Fig 4. Types of Histological Grade

In Figure 4 it shows that among 60 cases of carcinoma cervix well differentiated grade was 45, moderately differentiated grade was 10 and poorly differentiated grade was 5.

The duration of main clinical follow-up was 24 months ranging from 3 months to 26 months .According to clinical and radiological evaluation 55patients completely regressed lesions with good locoregional control. 5 patients have recurrence and have complaints. All the patients were assessed at recent follow-up. 55 patients showed complete response, 5 patients showed poor response.

five patients out of 60 patients have local recurrence at the mean follow-up of 24 months and treated by palliative chemotherapy with manageable side effects.

IV. Discussion

Carcinoma cervix is most common malignancy of female genital cancer. It has so many risk factors like poor hygiene, multi parity and recent studies shows it is related to Human Papilloma Virus infection. Pre-malignant conditions can be identified by PAP smear with sensitivity 72% and specificity 95%.Carcinoma cervix including CIS micro invasive disease has decreased significantly by effective screening. The outcome of the treatment depends on so many factors like tumor factors, host factors, extent of the disease and staging of the disease. It has pre malignant lesions like CIN 1, CIN2 and CIN3 and surgeons may perform cryosurgery or Leap surgery or conization. For the early stage of carcinoma cervix up to 1b2 stage, radical surgeries can be performed. Carcinoma cervix stage 1b2 to IV a concurrent chemotherapy with brachy therapy is administered. For invasive disease recommendation for diagnostic evaluation and treatment planning two distinct processes of clinical staging and extended clinical staging are essential. Nodal metastasis and parametrial invasion is of paramount importance in treatment planning and prognosis.

For stage I and Stage II A MRI and CT are helpful. In delineation extension of disease and treatment planning, however more that 85% of cases presenting to us are stage III and diagnostic work up is by FIGO guidelines. Positron Emission Tomography is useful in detecting recurrence and staging of extra pelvic metastasis. In I A1 stage carcinoma cervix simple hysterectomy can be done, and I A2 to IB1 radical hysterectomy was done. In IB2 to IV a was treated by concurrent chemoradiotherapy with cisplatin showed consistent improvement in local disease control, distant metastasis and overall survival benefit[12]. Data from five co-operative group randomized trials showed addition of cisplatin to radiotherapy increases 10% overall survival. Hence chemoradiotherapy is the standard of care[13,14]. In our study we have good locoregional control, good disease-free survival, local recurrence of 5 cases out of 60 i.e. lowest rate of recurrence as compared with trials in literature[15,16]. So the optimal treatment for carcinoma cervix should include:

1. Early stage upto IB2 – Carcinoma Cervix,surgery or radiotherapy.
2. Advanced stage IB2 to IV a - concurrent chemoradiotherapy.
3. Bone metastasis - Palliative radiotherapy
4. Recurrences – Palliative chemotherapy.

V. Conclusions

1. Carcinoma cervix is most common genital malignant in females in rural India.
2. Carcinoma cervix tends to recur and spreads locally and distantly.
3. The ideal goal in management of Carcinoma cervix is to achieve good locoregional control and overall survival.
4. The treatment of choice in most cases is concurrent chemoradiotherapy with brachy therapy – Gold Standard Treatment.
5. The recurrences are due to presentation in advance stages and adjuvant chemotherapy after chemoradiation in high-risk patients are other potential areas for future research..
6. Uniqueness of Carcinoma cervix is screening facility and thereby invasive carcinomas can be prevented.
7. Carcinoma cervix has bi-valent and quadrivalent vaccines advised during adolescent age before marriage for prevention.
8. It is advised to conduct studies in a greater number of patients and longer duration of follow-up is required for authentication of data.

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