ABSTRACT

AIM:

To study the safety and efficacy of Neoadjuvant chemoradiation (41.4 Gy of radiation concurrent with five cycles of Carboplatin and Paclitaxel) followed by surgery, in patients with resectable carcinoma of the mid and lower esophagus (Both squamous and adenocarcinomas)

MATERIALS AND METHODS:

All eligible patients of resectable carcinoma of the mid and lower thoracic esophagus registered at the Institute underwent Neoadjuvant chemoradiation. The schedule was weekly administration of carboplatin targeted at an area under the curve of 2 mg per milliliter per minute(AUC-2) and paclitaxel at a dose of 50 mg per square meter of body-surface area for 5 weeks concurrent with radiation (41.4 Gy in 23 fractions) followed by surgery- Transhiatal or Transthoracic esophagectomy (preferably, within eight weeks). The patients were closely monitored for toxic effects of chemoradiotherapy. The toxicity was graded according to RTOG (Radiation Therapy Oncology Group) and Common Terminology Criteria for Adverse Events CTCAE 4.0.

RESULTS:

On retrospective analysis of patients from July 2013 to July 2016, 28 patients with carcinoma esophagus who had resectable disease were considered eligible for Neoadjuvant chemoradiation followed by reassessment for surgery. Out of the 28 only 25 (89%) patients underwent surgery post neoadjuvant chemoradiation. The remaining 3 patients who defaulted were not included in the analysis. Out of the

25 patients Male is to female ratio was 1:1.1. Only 52% (13 patients) were able to complete all the 5 cycles of chemotherapy and 36% and 12% were able to complete only 4 cycles and 3 cycles of chemotherapy concurrent with radiation due to poor tolerance. Treatment breaks during radiation was present in 9 (36%) patients. Out of 25 patients, 10 patients had neutropenia (Grade III in 3 patients), 2 had thrombocytopenia and 5 had electrolyte imbalance and 1 patient had chemotherapy induced vomiting. 65% patients had pathological complete response of primary and nodes and 1 had only residue of the primary and two had nodal residue and 4 patients (20%) had both primary and nodal residue. All patients who underwent esophagectomy had a R0 resection. There was no incidence of pneumonitis in any of these patients. The postoperative morbidity were not significant.

CONCLUSION:

The use of neoadjuvant chemoradiotherapy with paclitaxel and carboplatin in treatment of resectable carcinoma esophagus has improved the rates of R0 resection and pathological complete response rates with acceptable adverse events. There is a lack of optimal data for use of paclitaxel and carboplatin chemotherapy with radical dose of 50 to 50.4 Gy radiation. With this high amount of pathological complete response rates, less toxicities and good compliance the use of Paclitaxel/Carboplatin chemotherapy concurrent with radiotherapy in treating inoperable tumors requires further prospective study.

Keywords: Neoadjuvant Chemoradiation, Paclitaxel and carboplatin, resectable, poor tolerance, Neutropenia, Thrombocytopenia, pathological complete response.