

ABSTRACT TITLE:

Response evaluation in esophageal cancers, of neoadjuvant chemotherapy using RECIST criteria on MDCT and to correlate imaging response with histopathology seen in postoperative specimen

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BACKGROUND:

With a large load of esophageal cancers in India secondary to social habits, we proposed this esophageal cancer study to evaluate the response of neoadjuvant chemotherapy using Response Evaluation Criteria in Solid Tumors (RECIST) on MDCT. The "Eccentricity Factor" and imaging response will be correlated with histopathological response of post-operative specimen.

METHODS:

60 consecutive cases with proven esophageal cancer who completely followed up with us from May 2013 to November 2014 were analyzed.

Standard esophageal scanning protocol with oral contrast was performed on Somatom-16MDCT. The variables recorded before and after chemotherapy for comparison include: Tumor length, Tumor thickness, Eccentricity Factor - change in shape or roundedness of the tumor, Involvement of the layers of the esophagus and Extra-esophageal extension, Nodal status and Metastatic lesions - site and size. The histopathological response was evaluated by "Tumour Regression Grade" (TRG).

RESULTS:

There's a strong correlation of CT based RECIST response using tumor thickness [(P value 0.146) as compared to length (P value 0.446)] and histopathological response seen in the post-operative specimen. The change in 'Eccentricity factor' (EF) was significant in both the primary tumor (P value 0.036) and the involved nodes (p value 0.042). We found no correlation between pathological tumor regression grading and patient survival.

CONCLUSION:

We found the present CT technique effective in examining esophageal tumors in terms of tumor stage, size and respectability which correlated reasonably well with surgical findings. However, no correlation was found between change in tumor size and histological tumor regression grading. Eccentricity factor demonstrated change in shape of the tumor and nodes from round to flat post chemotherapy. This underlines the current need still to consider surgery as a component of definitive treatment.