RADIOTHERAPY OF CARCINOMA OESOPHAGUS: AVOIDING OVERLAPPING INVESTIGATIONS AND TAILORING DELIVERY TECHNIQUE IMPROVES PATIENTS' COMPLIANCE AND REDUCES TREATMENT COST

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Background: Both incidence and mortality from oesophageal malignancies are rank as fifty among all cancers in Indian population. All the patients of CE are investigated as per protocol based on recommendations by standard international oncology text-books. Diagnostic findings of some of staging investigation performed in CE patients may overlap and just be duplication. Feasibility, tolerability, prognosis and preference of patients are taken into account while deciding on the radiotherapy technique (RTT). Co-60 teletherapy through Intensity modulated radiotherapy (IMRT) are some of the RTT available for management of patients with CE and their cost ranges between 14,500 and 96,000 Indian National Rupee (INR). Non-inferiority of RTTs w.r.t survival and dismal prognosis of locally advanced disease that precludes the concern of late radiation adverse-events make all of the RTT relevant in resource constraint developing countries. Planning time and cost of these techniques varies substantially and long radiotherapy planning time may be one of the reasons for patients to default the radiotherapy. Hence, the need arises to avoid duplication of investigations and tailoring of RTT.

Methods: Performance of retrospective analysis of case-files and/or radiotherapy registers (in case of non-traceability of case-files) of twenty-patients of CE evaluated between February'13 and August'13 at the department of radiotherapy, Kidwai Memorial Institute of Oncology, Bangalore, India. Cost of routinely conducted staging investigation was computed for each of the four patients whose case-files were traced. Details of radiotherapy techniques of 11 CE patients were collected from radiotherapy planning register.

Results: Cost of laboratory investigation of CE patients was in range of 8150 and 9125 INR. Single ultrasound abdomen (USG-A) and X-ray of chest were priced at INR 550 and 150 respectively. Variation in cost of investigation is mostly due to review of pathology slides and CECT-T&A at oncology centre. CECT-T&A that includes whole of liver can preclude the need for performing X-ray chest and USG-A in patients with CE and can save INR of 700 for each of the patients. This saving is in addition to preventing the indirect expenses of carrying-out X-ray chest and USG-A. Range of cost of radiotherapy was between 14,500 and 70,000 INR and patients with poor overall performance status did not incurred any expenditure on radiotherapy as they were offered best supportive care alone.

Conclusion: There exists a scope to exclude diagnostic laboratory investigations such as X-ray chest and USG-A from staging work-up of patients with CE. Local population compliance pattern may also be deciding factor in choosing the technique of radiotherapy for treatment of CE patients. Tailoring laboratory investigations and radiotherapy techniques after considering psycho-social factors of patient population in addition to other factors may enhance patients' compliance to radiotherapy and have significant cost-saving effect. Further studies stratifying patient group according to stage, site, extent of disease and technique of radiotherapy used are needed to examine the impact of tailoring laboratory investigation and treatment technique on compliance of patients to radiotherapy, outcome of therapy and overall treatment cost after matching for treatment default due to delay in initiating radiotherapy.