Conclusion: The larynx preservation protocol achieves the same survival rates that total laryngectomy, contributing 50% of preservation of organ function. It is necessary more cases for a final evaluation.

EP-1059
Structured assessment of radiation-induced fibrosis following treatment for head and neck cancer
G. Adigbli
University College London, Surgery and Interventional Science, London, United Kingdom

Purpose or Objective: To robustly assess features of radiotherapy-induced fibrosis in patients within the reconstructive/plastic surgery clinic and establish a baseline for comparison against following treatment.

Material and Methods: Patients awaiting fat-graft treatment for radiotherapy-induced fibrosis were assessed with regard to their symptomatology using a quality of life questionnaire. They also underwent clinical examination for functional impairment secondary to the fibrotic process and assessment of the microcirculation and mechanical properties by speckle contrast blood flow assessment and thernographic imaging, durometry and skin cutometry respectively. The results were compared against age-matched healthy controls.

Results: Health-related quality of life in these patients was impaired, with 36% of patients overall rating their quality as “fair” or “very poor”. On clinical assessment, movement of the neck was impaired with approximately 50% reduction in flexion and rotation movements. 100% of patients had sensory impairment in the fibrotic region. Microcirculatory changes were seen with increased flux (mean = 411.47 vs. 348.83 contralaterally) and temperature (mean difference of 1.3°C vs. control) in the regions of fibrotic change compared against age-matched healthy controls. Significant differences in hardness of skin and subcutaneous tissues of the neck were seen on cutometry and non-significant decreases in elasticity.

Conclusion: Our methods provide us with important baseline information about how affected our patients are by radiotherapy-induced fibrosis. This baseline can be compared post-operatively to quantify benefits afforded by fat-graft treatment and guide future research into the underlying mechanisms.

EP-1060
Can reduced CTV margin for IMRT in Head and Neck cancers improve therapeutic outcomes?
T.P. Chitrardurga Abdul Razack1, U.K. Annasagara Srinivasa1, V. Chandraraq1, A. Shenoy2, L. Jacob1, N. Ramar1, P. Anchineyan3, L. Vishwanath1, N. Thimmiah1, S. Palled1, S. Patil1, C.N. Patil8
1Kidwai Memorial Institute Of Oncology, Radiation Oncology, Bangalore, India
2Kidwai Memorial Institute Of Oncology, Radiation Oncology, Bangalore, India
3Kidwai Memorial Institute Of Oncology, Radiation Physics, Bangalore, India
4Kidwai Memorial Institute Of Oncology, Head And Neck Oncology, Bangalore, India
5Kidwai Memorial Institute Of Oncology, Medical Oncology, Bangalore, India
6Apollo Cancer Institute, Radiation Physics, Bangalore, India
7Health Care Global, Radiation Physics, Bangalore, India
8Health Care Global, Medical Oncology, Bangalore, India

Purpose or Objective: Can reduced CTV margins for IMRT in Head and Neck cancers improve therapeutic outcomes?

Material and Methods: Between 2010 and 2015, 83 consecutive patients with locally advanced Head & Neck squamous cell cancers, treated with a radical intent with chemoradiation by IMRT, with reduced CTV margins were analysed for local control, toxicity, compliance & survival. Nodal delineation was as per DAHANCA guidelines. Toxicity was assessed by CTCAE version 4.0

Results: Median age of the cohort was 58 years (32-76) with 65 males & 18 female patients. Hypopharyngeal cancers were 47% followed by oropharyngeal (27%) and laryngeal (26%) cancers. TNM stage grouping in the cohort was IVA in 72% followed by IVB & III. CECT based delineation of the involved primary and nodal volumes were expanded uniformly by 5 mm to create the high risk CTV and this expanded by 5 mm to create the PTV1. Similarly the involved nodal level was considered as intermediate risk (PTV2) and remaining nodal levels as low risk (PTV3). Inverse planning was performed using Varian Eclipse planning system with dose constraints to OAR’s as per guidelines. SB-IMRT was delivered to a dose 70, 63 and 56Gy in 35 fractions to high, intermediate and low risk volumes respectively. Median overall treatment time was 49(40-70) days. 24% of the patients received 6 fractions per week. Weekly Cisplatin (40mg/sqm) was given concurrently with IMRT except in 10 patients receiving Carboplatin (2AUC), 90% received a minimum of 4 cycles. Grade 3 mucositis was seen in 40%, grade 3 dysphagia in 6%, radiation dermatitis was predominantly grade 2, Xerostomia was predominantly grade 1 in 93%, 10% required placement of nasogastric tube and treatment interruption. Myelosuppression of grade 3 was seen towards completion of treatment in 24% of the cohort, predominantly in total leukocyte count. A complete response of 90% and 86% was seen in primary and nodal disease at the end of the treatment and eventually in 100% and 94% in first three months. 3 patients needed neck dissection and showed residual disease. At a median follow up of 2 years, 62 patients are controlled with an overall survival of 74.7%. Deaths are due to distant metastasis in 4% and 8% due to other medical causes.

Conclusion: Reduction of CTV margin to 5 mm seems to be appropriate, with good loco-regional control, reduced overall treatment time, better compliance, reduced toxicity & superior outcomes. This study forms basis for a prospective controlled randomised study to generate further evidence.

EP-1061
Progressive resistive exercise training for shoulder function: a randomised controlled trial
V. Murthy1, M. Chatterjee2, S. Kannan1, T. Gupta1, A. Budrukkar1, S. Ghosh Laskar1, J. Agarwal2
1Advanced Centre for Treatment- Research and Education in Cancer- Mumbai, Radiation Oncology, Mumbai, India
2Advanced Centre for Treatment- Research and Education in Cancer- Mumbai, Physiotherapy, Mumbai, India
3Advanced Centre for Treatment- Research and Education in Cancer- Mumbai, Biostatistics, Mumbai, India

Purpose or Objective: Significant shoulder dysfunction persists in a majority of the oral cancer patients after surgery even on performing active exercises. Progressive Resistive Exercise Training (PRET) involves gradual and incremental increase in resistance for improved muscular rehabilitation. This randomized controlled trial was done to compare active shoulder exercise and PRET with active exercises for shoulder dysfunction in patients undergoing Radiation Therapy (RT).

Material and Methods: Ninety four eligible patients with shoulder abduction Active Range of Motion (AROM)° were randomized to either active shoulder exercises only (n=47) or PRET plus active shoulder exercises (n=47). Resistance was gradually progressed over 6 weeks according to the capacity of patients in PRET arm. AROM was measured at week 0, 2, 4, 6 and 6 months. Shoulder Pain and Disability Index (SPADI) was also measured in both arms at the base line and after completion of the intervention at the end of 6th week.

Results: Improvement in shoulder abduction AROM was significantly greater in the PRET Arm (mean = 73.3° ± 14.3° at baseline to 132.5° ± 28.5° at 6 weeks) than in standard arm (mean = 74.8° ± 12.5° at baseline to 97.1° ± 16.8° at 6 weeks).