Abstract

Nasopharyngeal carcinoma is the type of head and neck cancer in which malignancy emerges from the epithelial cells lining the nasopharynx. External beam therapy is mostly used to deliver radiation to the tumor from outside the body with the help of linac (medical accelerator)

Intensity modulated radiation therapy is an advancement of 3DCRT. When used as simultaneously integrated boast, different doses per fractions are delivered to different targets at the same time.

20 NPC patients were treated with SIB-IMRT with which 70Gy (2.12Gy/fraction) dose was delivered to PTV 1and 62.5Gy (1.89Gy/fraction) and 55.4Gy (1.67Gy/ fraction) doses were delivered to PTV 2 & 3 in a total of 33 fractions. Constrained were applied to important anatomical structures.

Various dose parameters to assess OAR sparing were studied and plan quality was assessed by comparing HI, CI, UI, GI and coverage. All the dosimetric parameters showed that the dose prescription and distribution to the target volume in the institute are in protocol with the ICRU. The values for CI showed minor acceptable deviation from the protocol. A GI<3.0 reflects reasonable results and the results were in protocol. For HI the less the mean value the better the homogeneity of the dose whereas coverage of the plans seemed to be compromised due to the presence of abut structures in head and neck region.