

Purpose: To evaluate retrospectively dosimetry of inguinal nodal bed irradiation using Dose Volume Histogram (DVH) in vulvar cancer patients treated with Photons/Electron beams.

Methods: Treatment plans from eleven patients treated in our institution were used in this study. For all patients, each inguinal nodal region has been re-contoured. The photon and/or electron beam treatment plans previously used were recalculated using identical beam parameters to create the DVH for Rt Inguinal, Lt Inguinal, Rt hip, Lt hip etc. Inguinal prescription dose was 45 Gy delivered using photon beams (6X and/or 18X) and electron beams (6 to 20 MeV). The total dose to the Vulva went up to 61.2 Gy delivered using photon beams (6X and/or 18X) and/or electron beams. DVHs for Rt Inguinal, Lt Inguinal, Rt hip and Lt hip were generated. Minimum, Mean, Maximum and D90 doses for both Inguinal; and mean and maximum doses for both Rt and Lt hips were also recorded.

Results: The average mean, maximum and D90 doses for Rt Inguinal were 48.72, 58.72 and 39.27 Gy; and for Lt Inguinal were 48.75, 59.59, and 41.27 Gy, respectively. The average mean and maximum doses for Rt hip were 31.61 and 48.13 Gy; and for left hip were 31.78 and 48.66 Gy, respectively.

Conclusions: The DVH results from this study will provide important information to evaluate the treatment plan for vulvar cancer based on the dose/volume characteristic of the inguinal nodal beds. It may prove to be a better optimization technique for treating inguinal nodal bed in vulvar cancer treatment.