

Avoidance Structure impact on DVH Estimates for Left Breast VMAT plans

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Introduction: Avoidance structure (AvS) tool blocks beam entry and exit in contoured region of interest. We investigated the impact of this tool (blocking lungs + heart cropped 3 cm from target) on dose volume histogram (DVH) estimates.

Materials and Methods: A retrospective sample of 30 patients was selected. They were treated in 1 week for the whole breast. DVH metrics and DVH estimates were compared between plans with and without AvS for a Halcyon v2 linear accelerator (Varian Medical Systems, USA).

Results and Discussion:

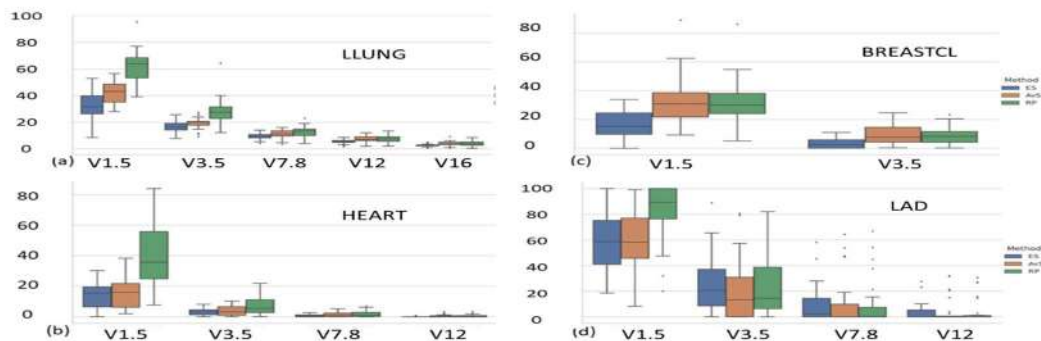


Figura 1: Relative cumulative DVH values for (a) left lung, (b) heart, (c) LAD, (d) right breast. DVH estimates are displayed as method ES, results from the plans without Avoidance Structure as RP (RapidPlan) and results from the plans with AvS as AvS.

Conclusions: DVH estimates are blind to the AvS tool. Except for the right breast, the AvS tool improved organs at risk sparing and did not worsen the coverage or hotspots.

References:

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