

AbstractID: 10297 Title: Multicenter intercomparison for treatment of the mesothelioma with IMRT and Tomotherapy.

Purpose :The purpose of this work is to assess the role of Tomotherapy HiART System and to compare it with IMRT conventional Linac techniques used in Brescia and Florence for the treatment of mesothelioma.

Materials and methods :Four cases of mesothelioma, with same constraints to PTVs and OARs, have been planned using IMRT techniques and Tomotherapy. The results are compared to assess different methods of planning and possible advantages of each one.

Results :The preliminary experiences conducted at Brescia and Florence, with IMRT, seem to allow adequate PTVs coverage while sparing sensitive organs. From the DVH analysis, Tomotherapy seems to allow a better coverage and uniformity of dose to PTV and a similar saving for lung (mean dose < 8Gy) and cord, while the ipsilateral kidney (mean dose <20Gy vs 35Gy) and liver (mean dose <30Gy vs 35Gy) are more spared with Tomotherapy.

Treatment setup verification, immobilization devices and technology limitations (max beam size) observable with IMRT techniques, maximum gantry rotation and QA of large volume treated are currently under discussion.

Conclusions :Both techniques are adequate for the treatment of mesothelioma, but Tomotherapy seems to offer some clinical and physical advantages. Particularly, treatment time, better coverage and dose uniformity to PTV, better savings of some critical organs by Tomotherapy suggest further studies and discussion.