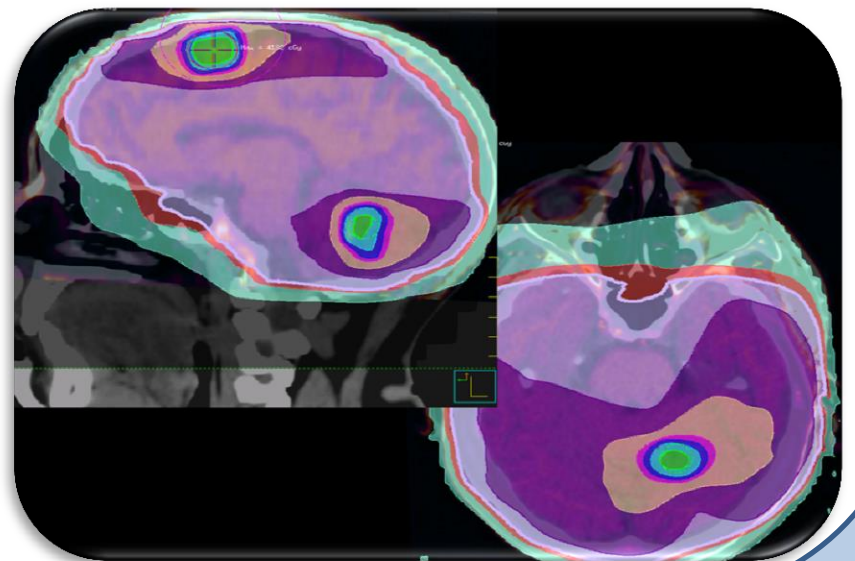
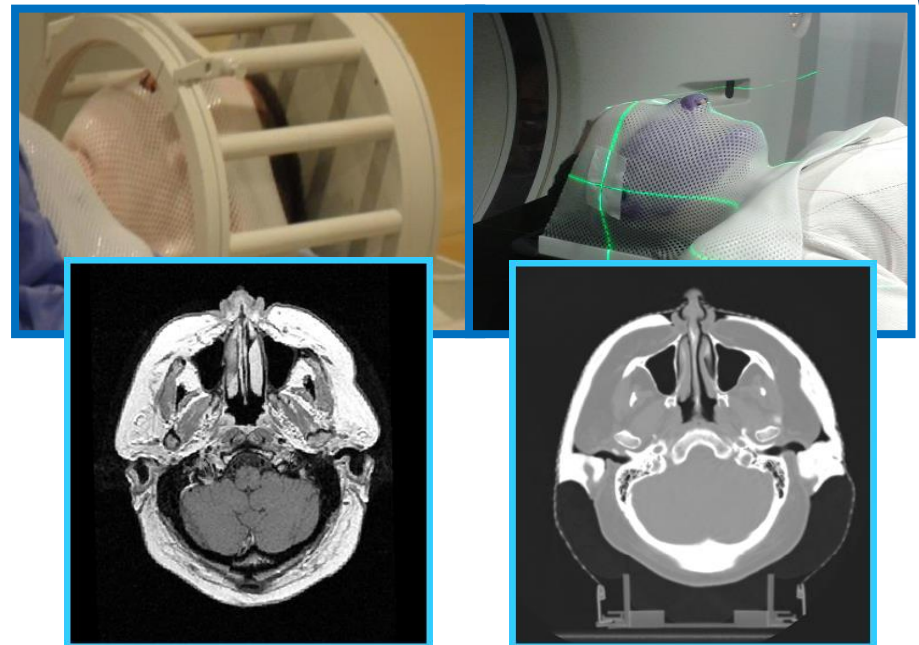
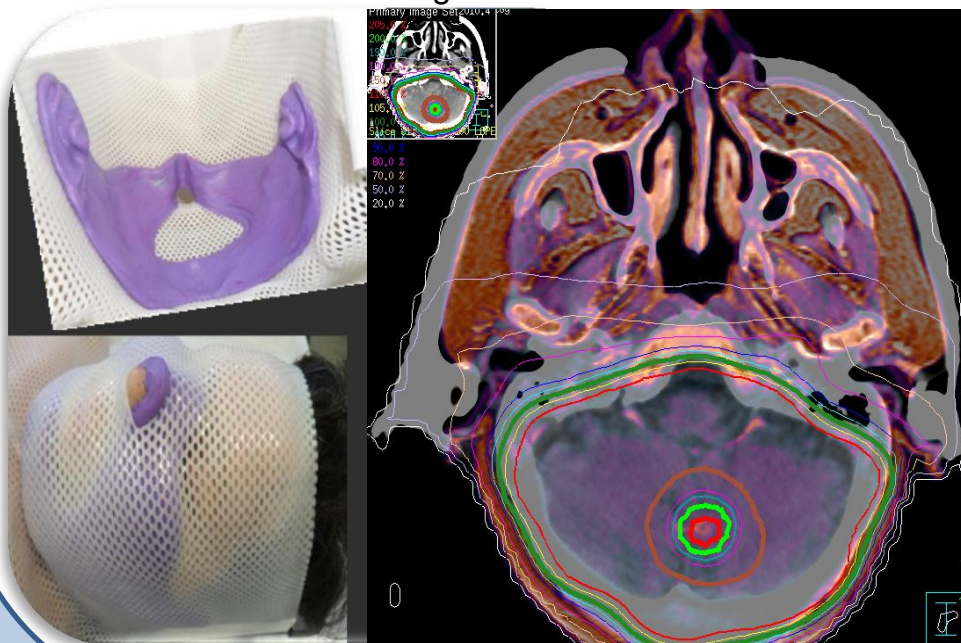


OBJECTIVES

Whole brain radiation therapy (WBRT) combined with a boost over cerebral metastases has shown benefit in survival versus WBRT alone in the RTOG 9508 trial. Our aim was to evaluate our institute experience in the treatment of cerebral metastases with WBRT with simultaneous integrated boost (SIB) with VMAT.

MATERIAL AND METHODS

We selected patients treated between 2011 and 2014 with ECOG ≥ 1 , brain limited disease, and ≤ 4 metastases with less than 20 cc of volume. The immobilization was done with a Frame-less device (eXaFrame®, AnatGe) patented by our institution which consists in a thermoplastic mask reinforced with a high precision silicon sub-mask (eXaSkin® Submask AnatGe). We obtained CT and MRI axial 2 mm thickness images and fused it with excellent quality for planification. The positioning was done with daily IGRT and the treatment was imparted by VMAT. In all cases the maximum tolerable dose for hippocampus was 10Gy. In prophylaxis encephalic arcs we prescribed 20Gy, and 20Gy more for metastasis. The total time employed in the treatment design was about 7 hours.



RESULTS

11 patients with 14 metastases were treated with WBRT with SIB. All patients showed extracerebral disease controlled. The average CTV volume was 5.5 cc. Any patients suffered grade IV toxicity. The surveillance median was 7 months. The median survival was 9 months.

CONCLUSIONS

WBRT with SIB over cerebral metastases performed with VMAT and IGRT could be comparable to a stereotactic treatment under a theoretical evaluation of toxicity and physics doses administered.