

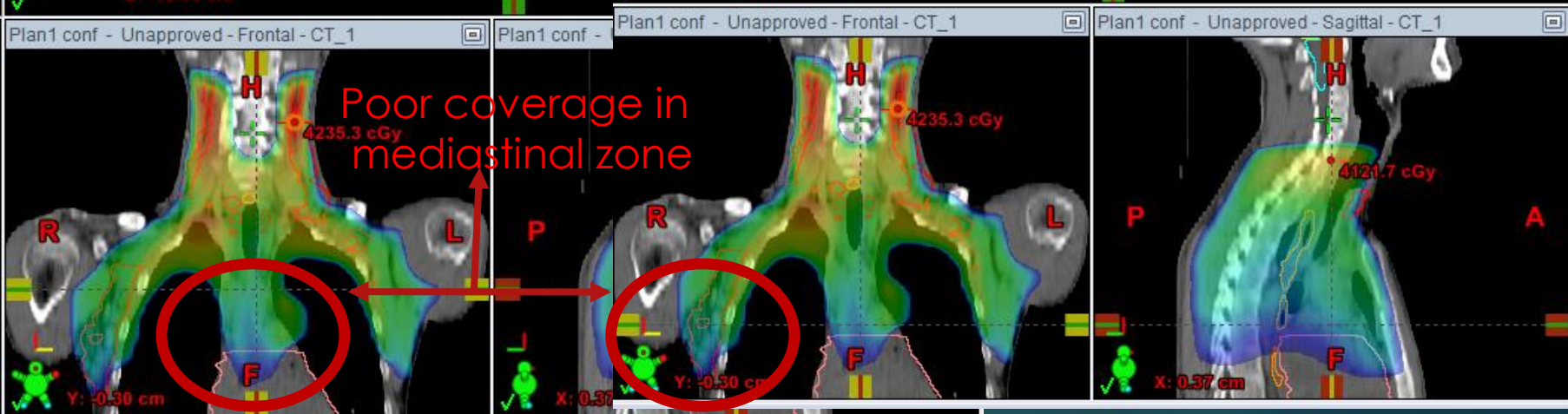
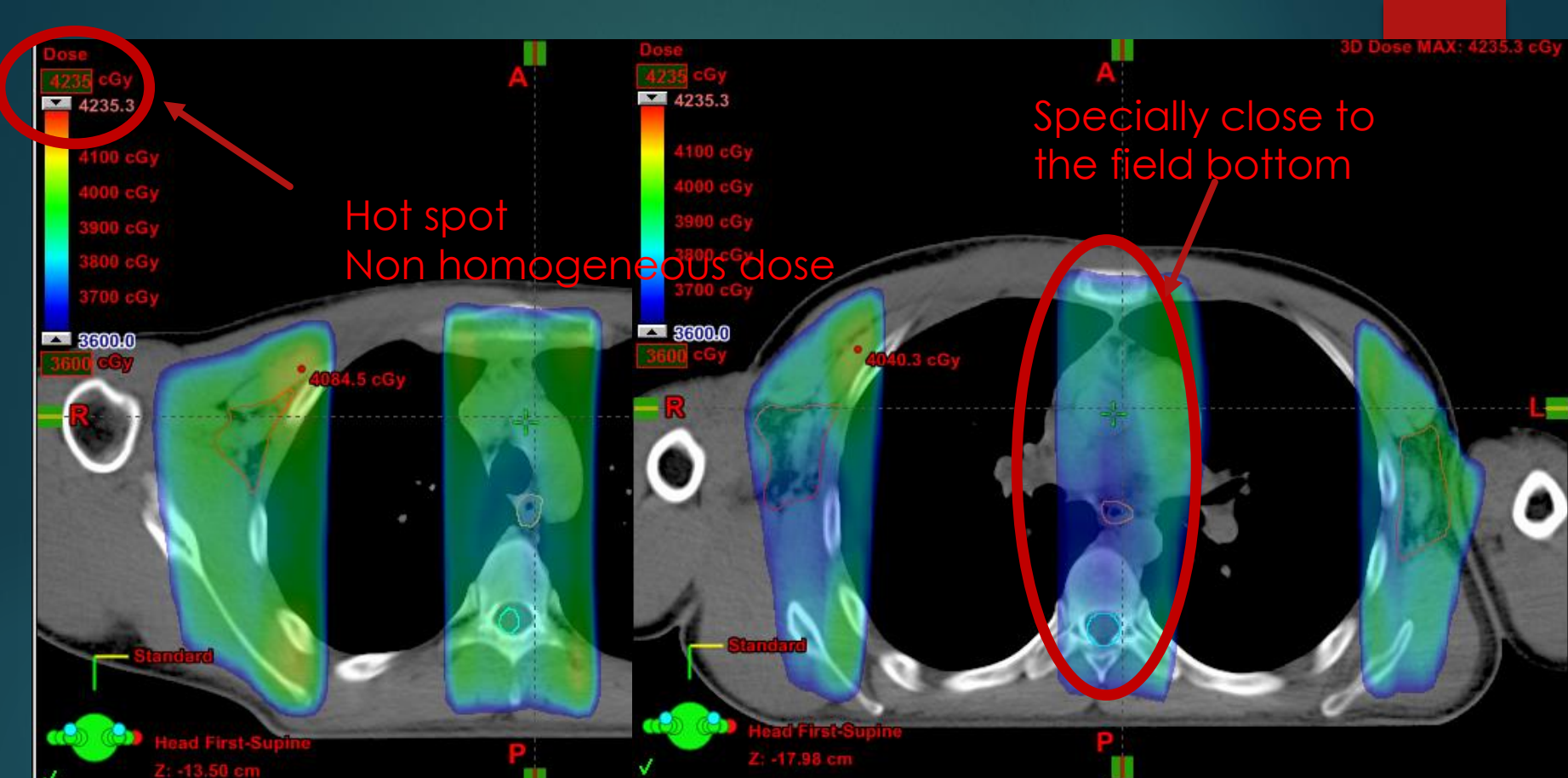
# HODGKIN LYMPHOMA (HL) TREATMENT USING VARIAN ECLIPSE IRREGULAR SURFACE COMPENSATOR. A DOSIMETRIC ANALYSIS AND CLINICAL RESULTS

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# Introduction

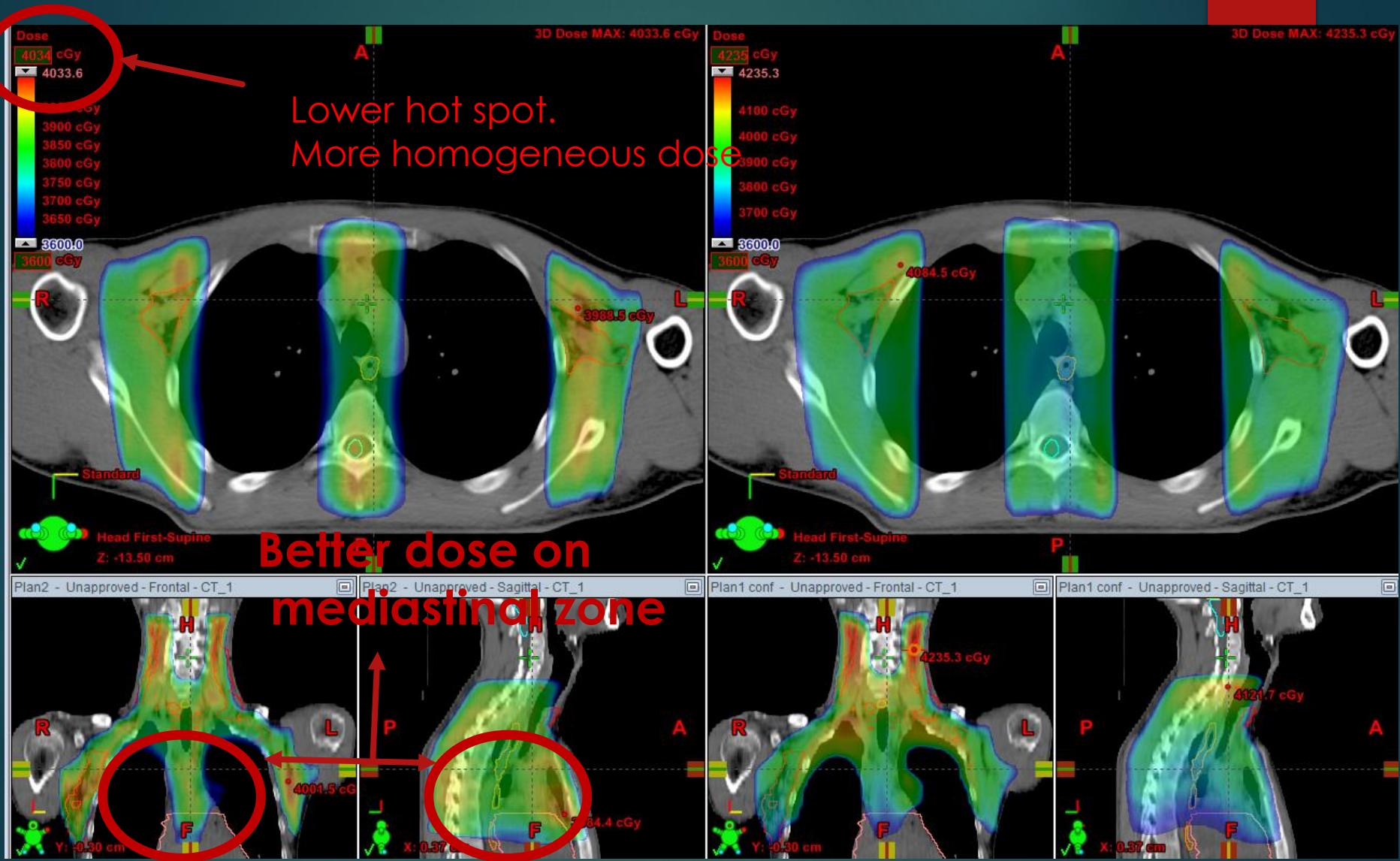
- ▶ A recommended technique for a radiation therapy treatment for HL is a mantle field technique.
- ▶ Thus represents a challenge for the dose calculation because of:
  - ▶ Field irregularity and size
  - ▶ Anatomical area
  - ▶ Not “standard” anatomy (short neck and/or fat chests)
- ▶ Since 2010, mantle techniques are treated with electronic compensators.



# Purpose and methods



- ▶ To improved quality on mantle technique for HL diminishing side effects and make a new treatment standard.
- ▶ Each of this treatment plans were calculated using the Varian Eclipse irregular surface compensator calculation technique.
- ▶ Each plan were compared with the blocked field of the same size, shape and energy.



Lower hot spot.  
More homogeneous dose

Better dose on  
mediastinal zone

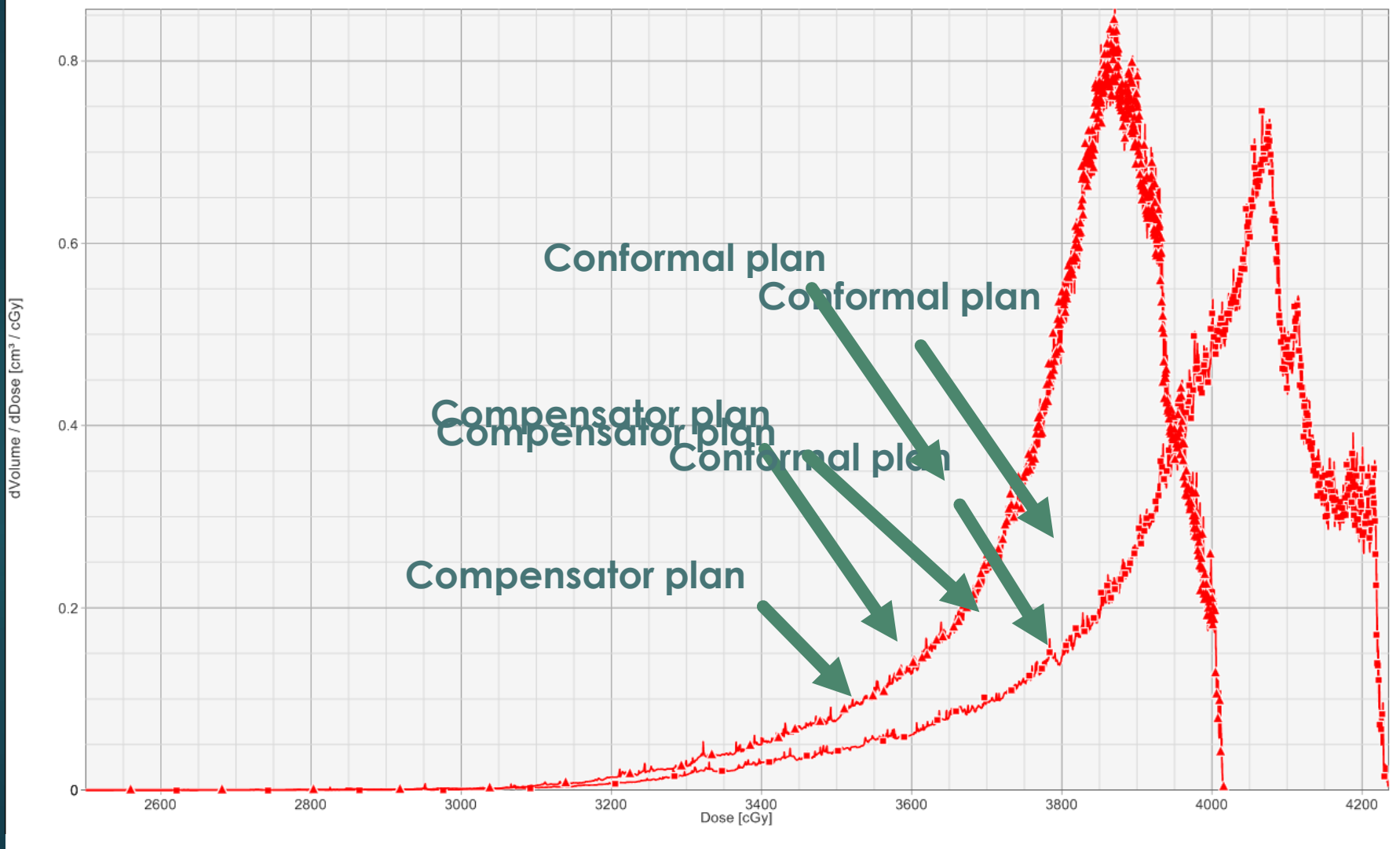
Mantle with irregular  
Surface compensator

Mantle with conformal beams

# Results

- ▶ In all cases, maximum dose were lower using compensator.
  - ▶ Maximum difference where 10% between plan with compensator and plan with conformal beams.
  - ▶ Minimum difference where 5 %.
- ▶ Percentage prescription dose improved with compensator plans.
  - ▶ Best improve were 7%
- ▶ Dose to OAR were reduced.

# Differential DVH comparison







# Conclusions.

- ▶ Irregular Surface compensator technique are use now to treat LH cases which need mantle fields.
- ▶ Improvement in LH cases with just mediastinal zone or unilateral neck were less than 3 %
- ▶ Acute reactions where diminished in skin on 60% of the cases.
- ▶ Late reactions where controlled.
- ▶ Percentage prescription dose were improved in all mantle cases in an interval of 3% to 7%.