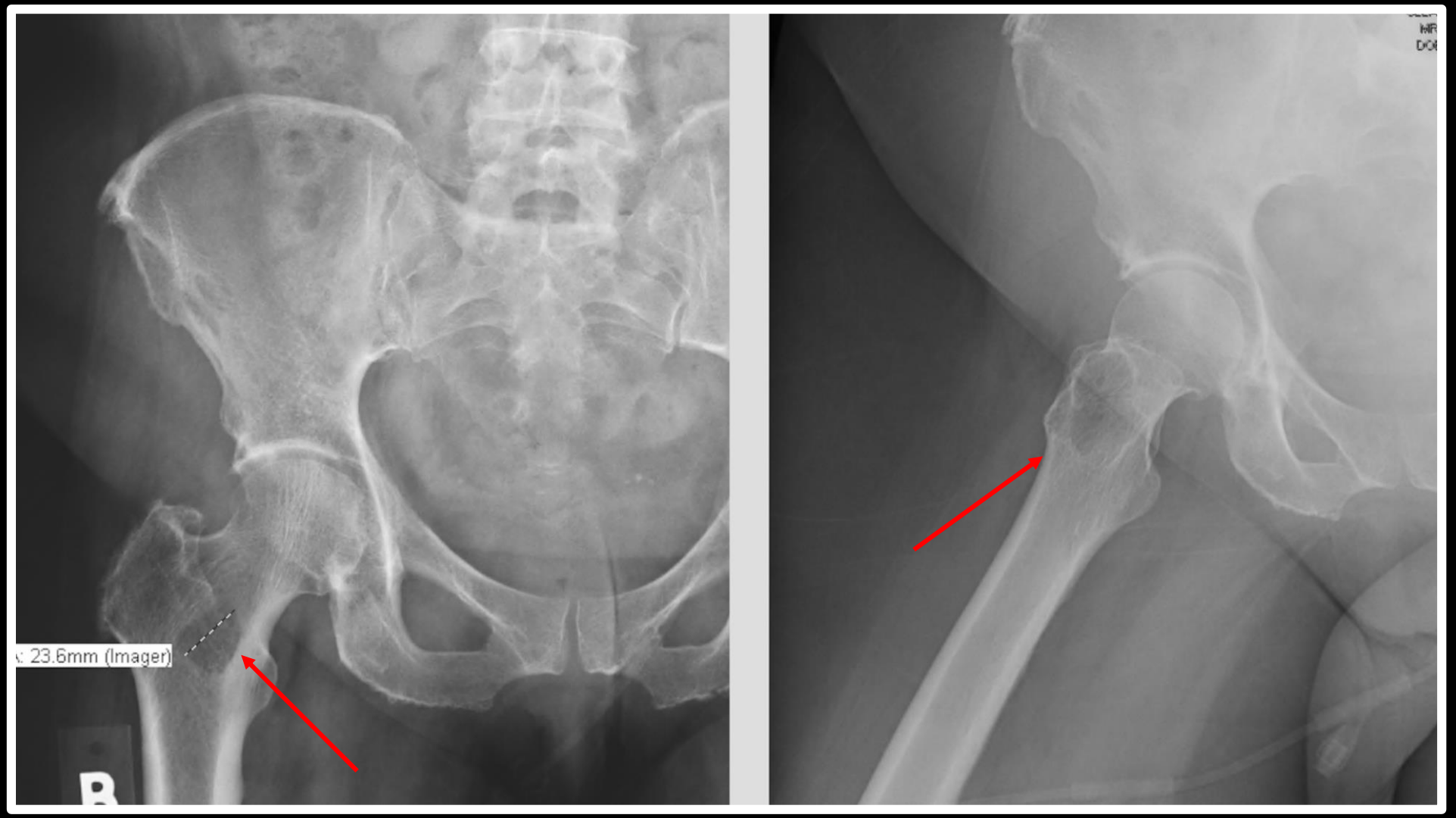
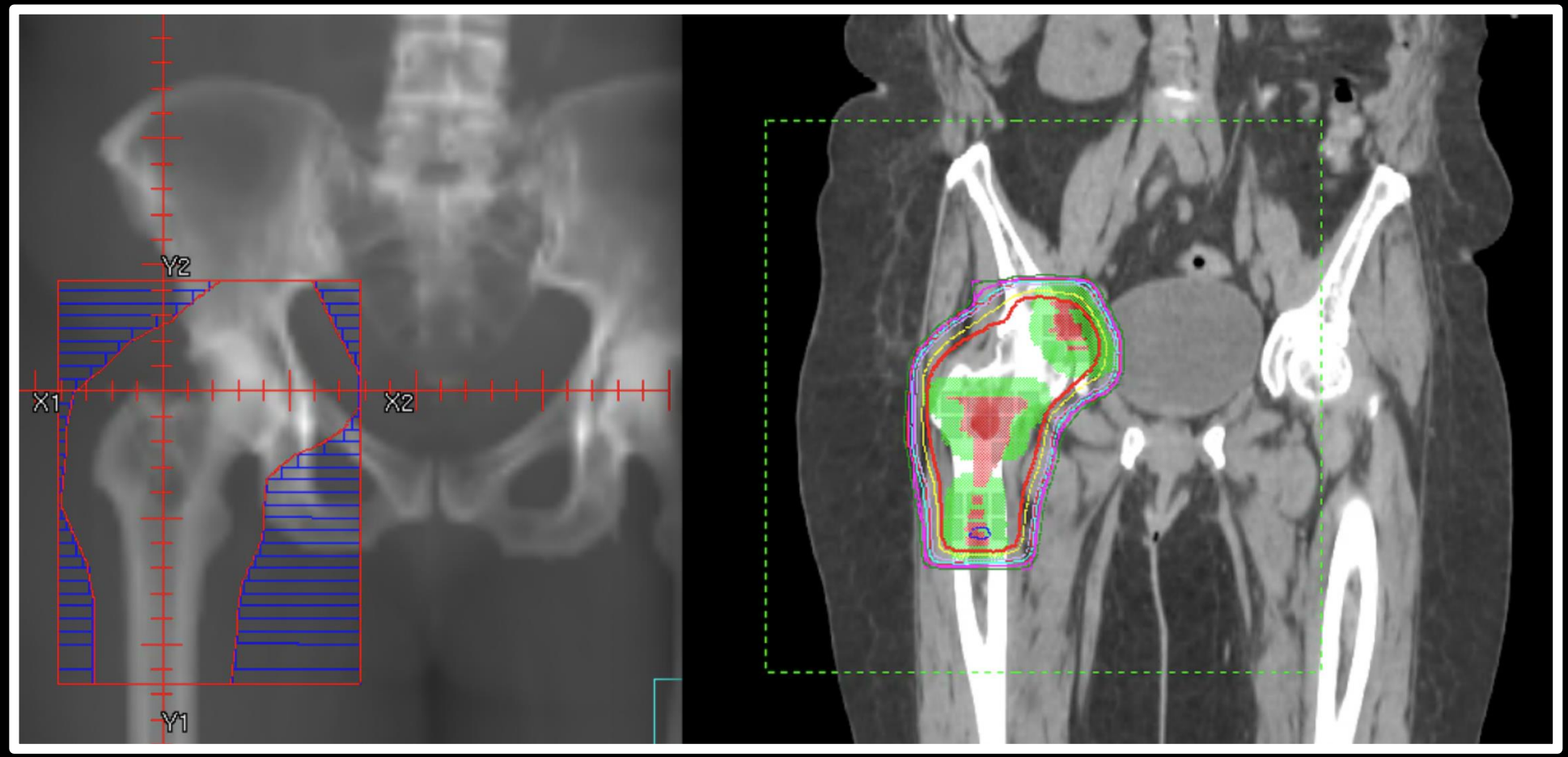
ILROG Mini-Atlas: Multiple Myeloma

60-year-old female with known multiple myeloma presents with right hip pain corresponding to a lytic lesion seen in the intertrochanteric line of the right femur (arrows)



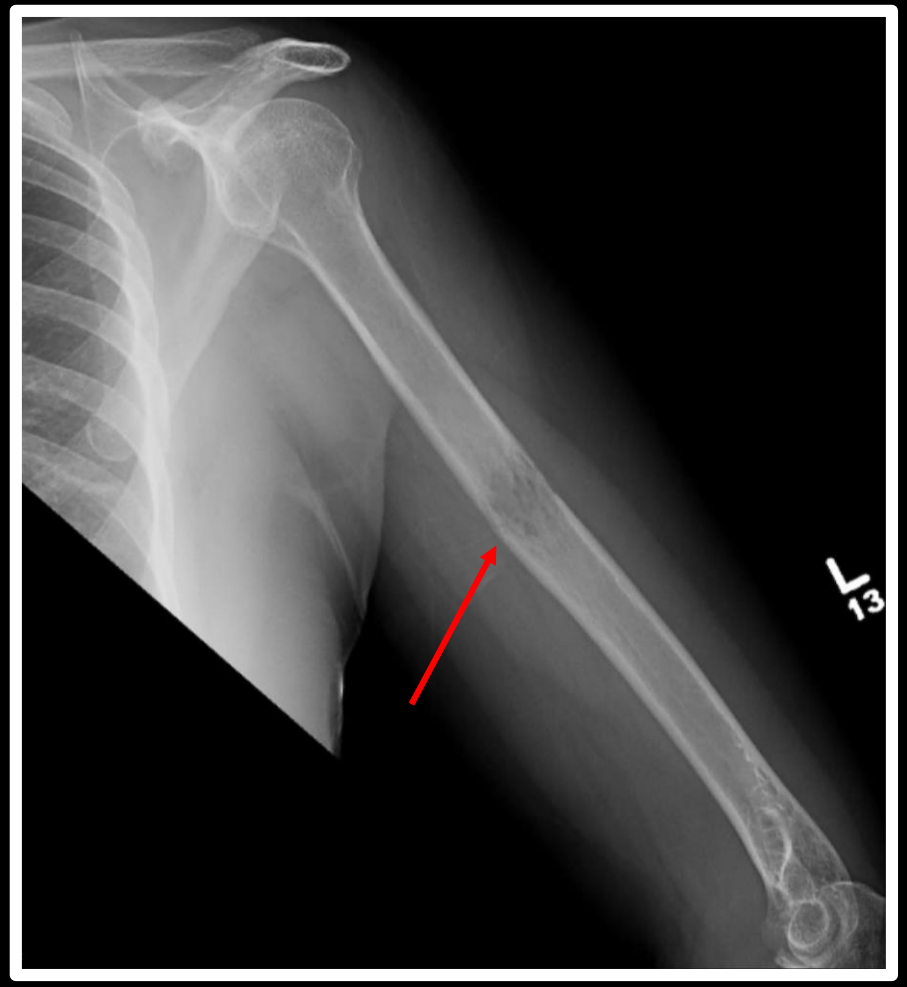
16-Tsang IROBP. 2018 Jul 15;101(4):794-808

DRR showing the AP field (left) and coronal images showing contours of CTV (red) and a 5 mm added margin to PTV (green) on the CT simulation scan (right).



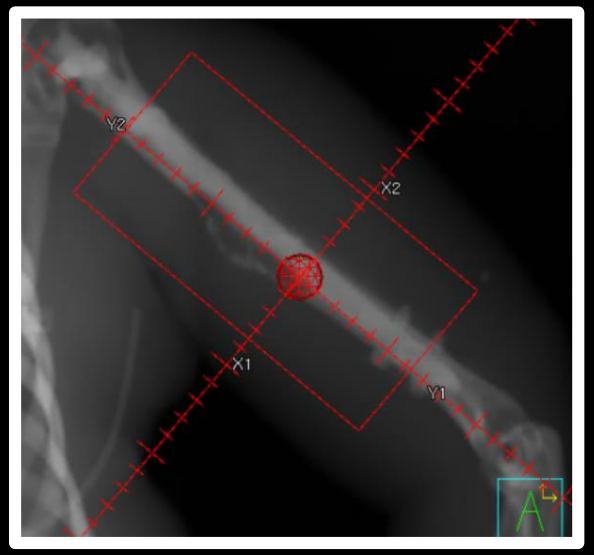
The patient presented again one year later with a mid – left-humerus lytic lesion with impending fracture (arrow).

The patient was taken to the operating room and an intramedullary rod was inserted.



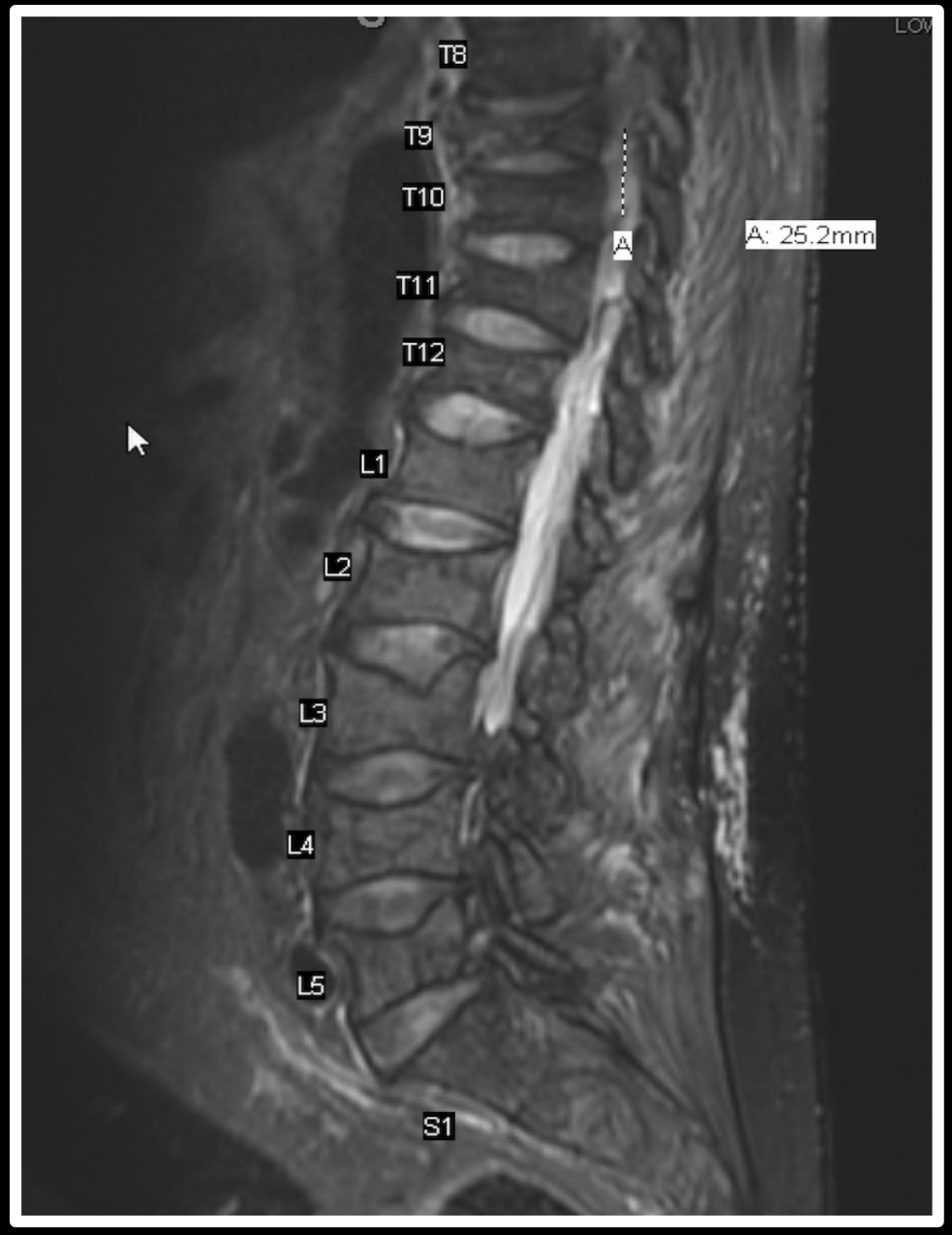
Field showingcoverage of the lesion with margin.

Alternatively it would be acceptable to cover the entire humerus generously to avoid failure of the hard ware in the future (in case another lesion arises in the vicinity of the rod).



58 year old gentleman with a long standing history of multiple myeloma patient presenting with severe back pain.

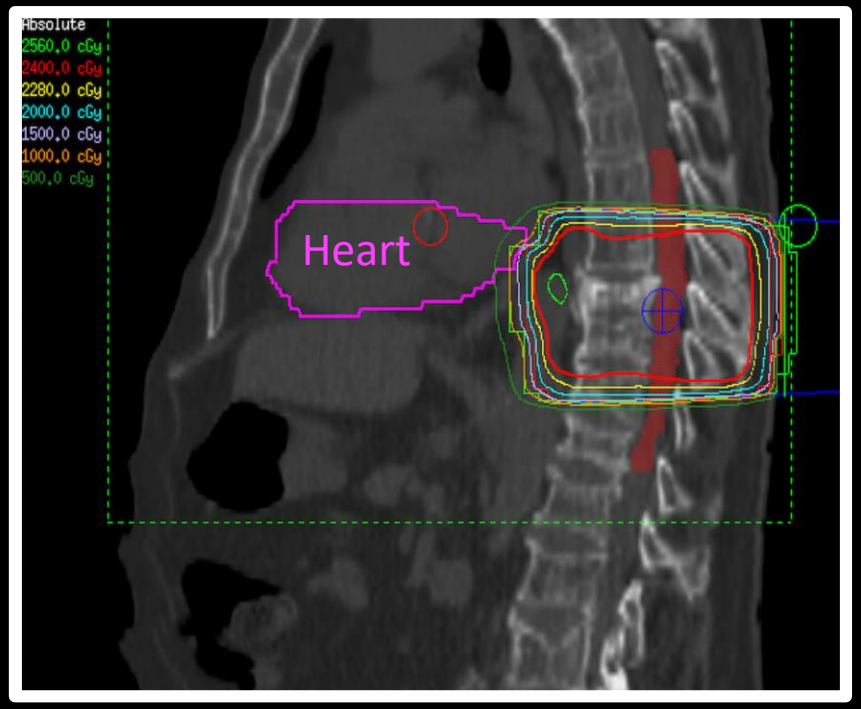
A compression fracture is appreciated on MRI imaging accompanied by a paraspinal soft tissue mass at T9 and T10, corresponding to the patient's pain.

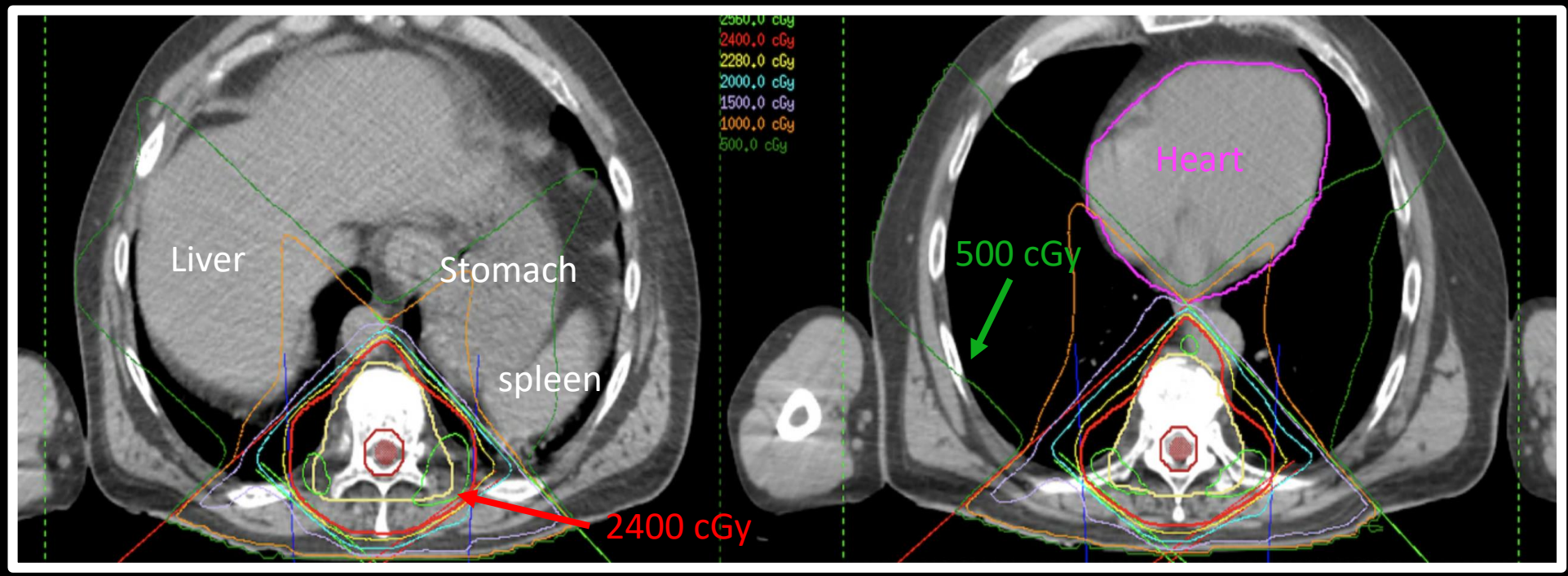


Planning using a wedge pair to avoid exiting through the heart to treat the target volume to 24 Gy.

A wedge pair may not be desirable for treating several thoracic vertebral bodies however, as the lung dose (esp 5 Gy volume) may be excessive.

In this case compressed vertebral body and the paraspinal lesion is encompassed in the field.





Take home message:
The role of radiation in multiple myeloma patients is limited to pure palliation, therefore, it is important to only address the problem at hand while making it a priority to avoid the critical organs including avoiding excess dose to the bone marrow, heart, kidneys, etc…

Since we can never predict the next site that might need radiation, it is advisable to limit the radiation field to the lytic site without attempting to encompass adjacent areas that do not display evidence of myelomatous lesions.