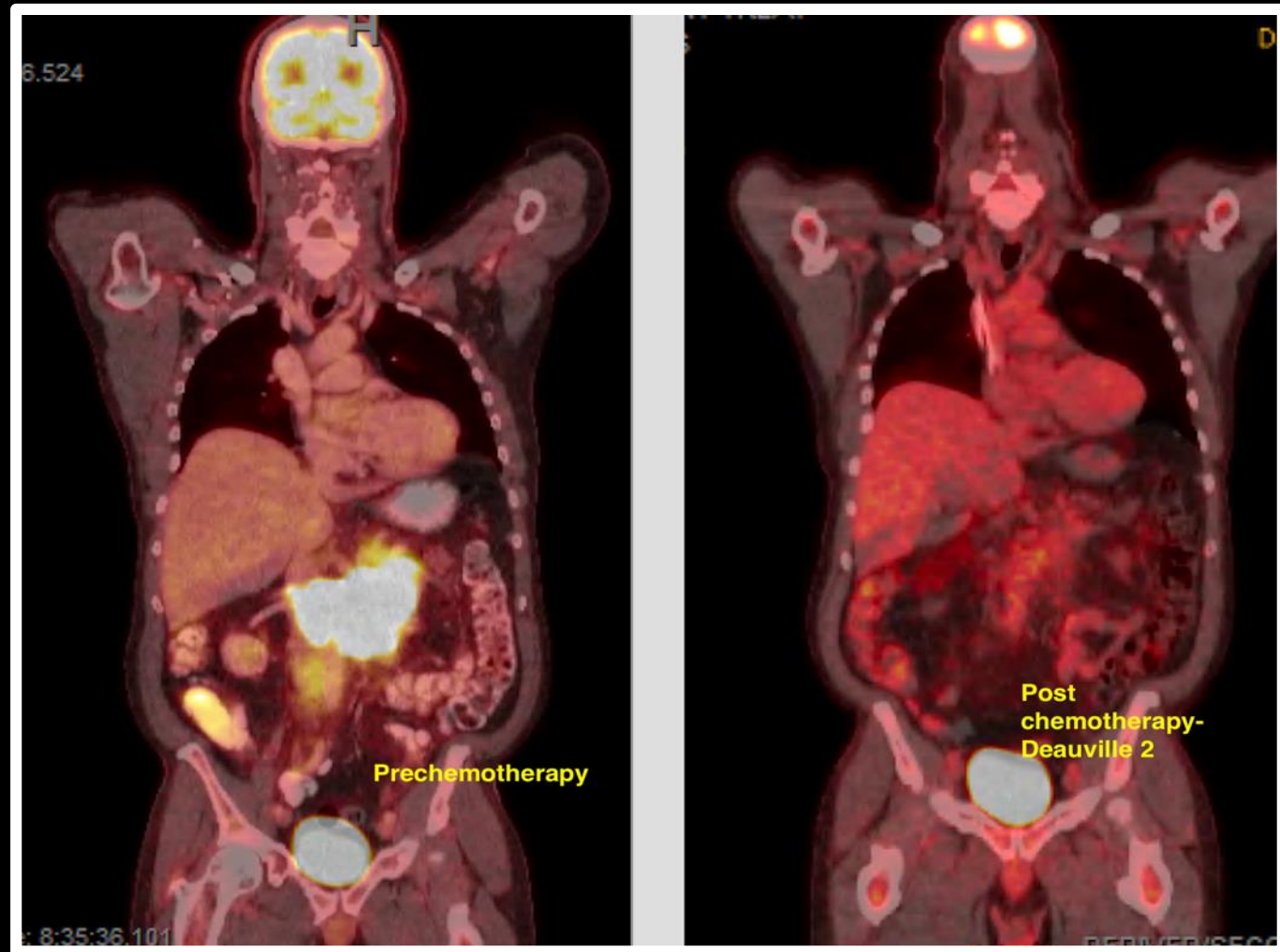


ILROG Mini-Atlas: Mesenteric Location

52-year-old man, presents with bulky diffuse large B cell lymphoma, 11 cm, involving the mesentery and para-aortic region.

He received 6 cycles of R-CHOP and achieved a metabolic complete remission (Deauville 2).

He presents for consolidative radiation to the original site of bulky disease¹ using sing ISRT² to 3000 cGy.

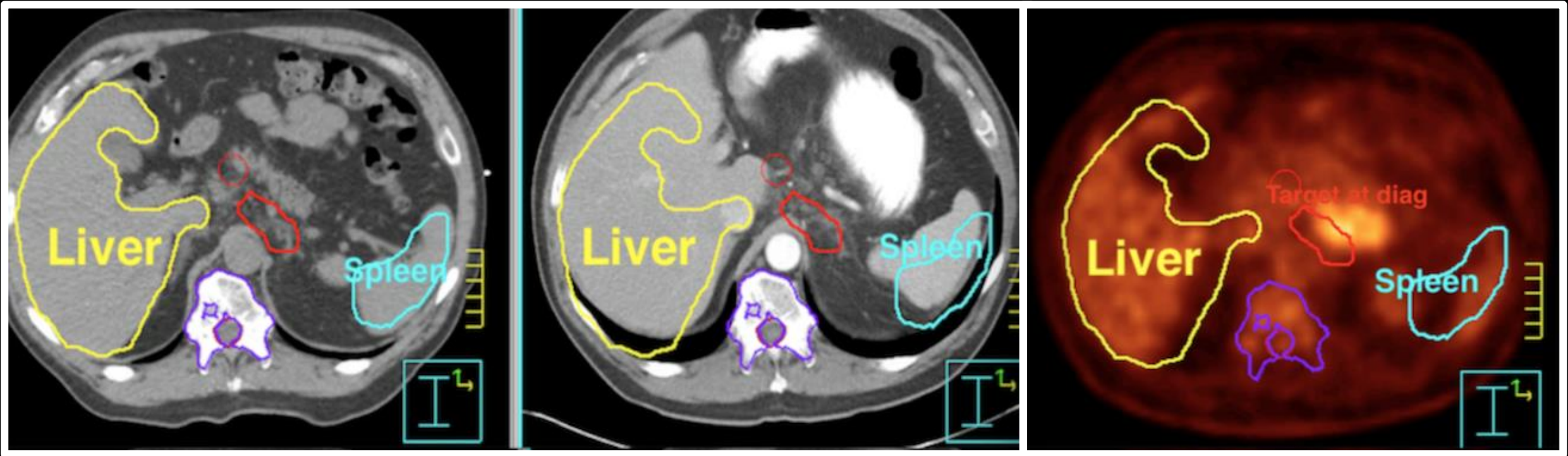


PET/CT showing the mass before chemotherapy (left) and after (right)

¹Held et al; J Clin Oncol. 2014 Apr 10;32(11):1112-8

²Illidge et al; IJROBP 2014 May 1;89(1):49-58.

Axial images showing **CTV (red)** contours on the CT simulation (left panel), corresponding pre-chemotherapy diagnostic CT (middle panel) and pre-chemotherapy diagnostic PET/CT scan (right panel).

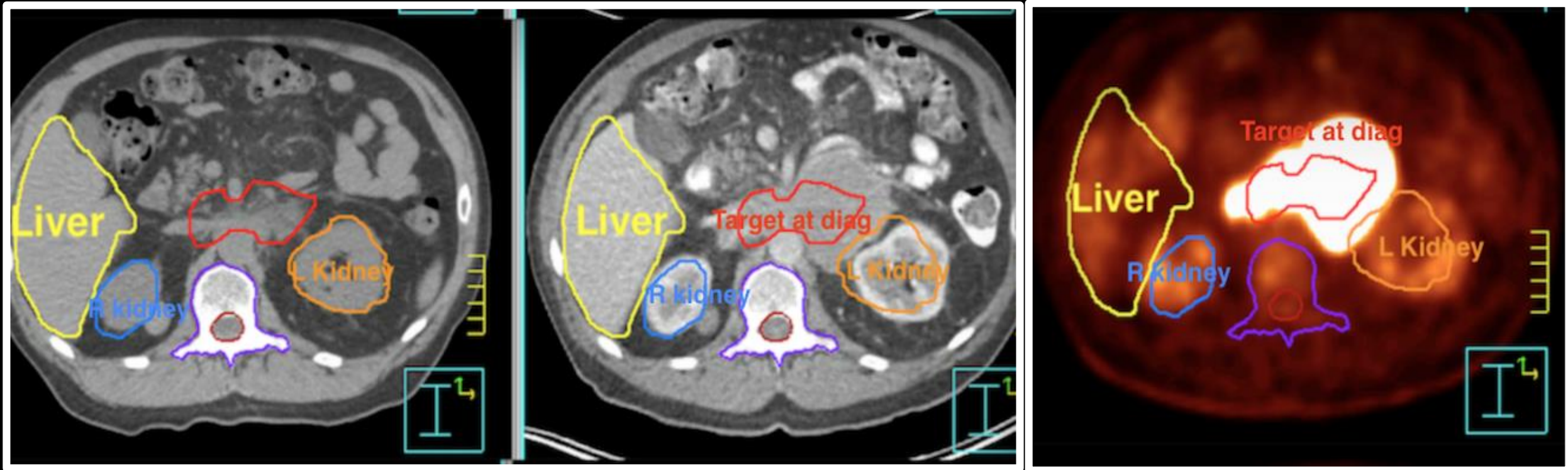


Planning Simulation is done using breath hold technique to decrease respiratory induced motion of the target as well as organs-at-risk.

Patients should also be simulated and treated with an empty stomach (NPO for ≥ 6 hours) to avoid the impact of differential gastric filling on target and organ at risk motion.

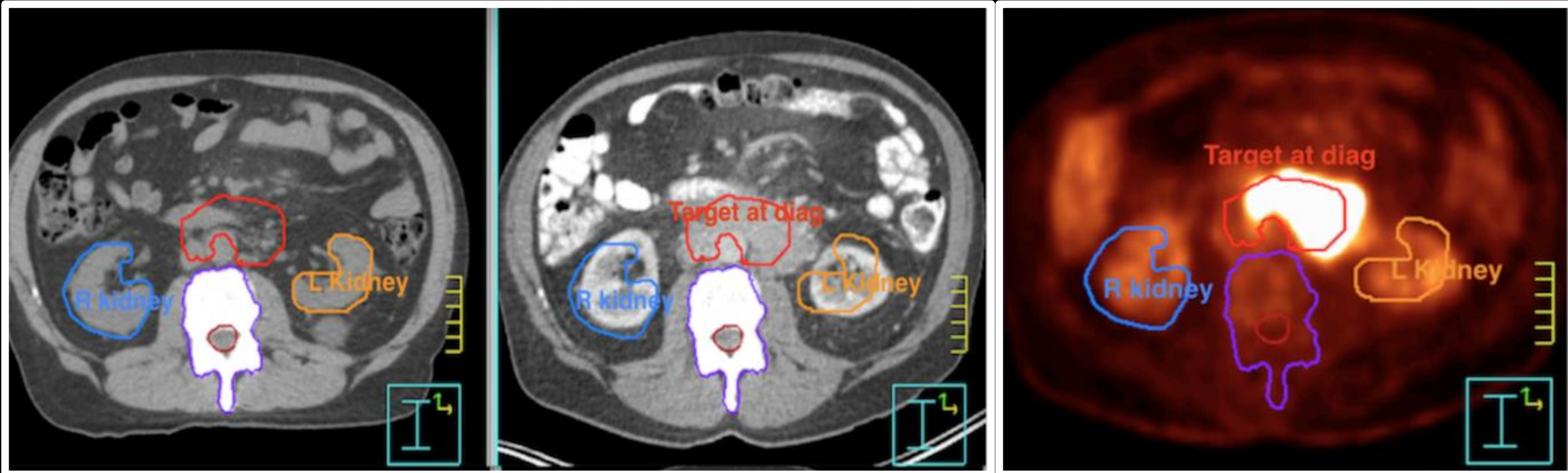
Note that the use of breath hold during the CT simulation makes perfect image fusion infeasible. Therefore, an independent visual verification of the target delineation is required.

Axial images showing **CTV (red)** contours on the CT simulation (left panel), corresponding pre-chemotherapy diagnostic CT (middle panel) and pre-chemotherapy diagnostic PET/CT scan (right panel).



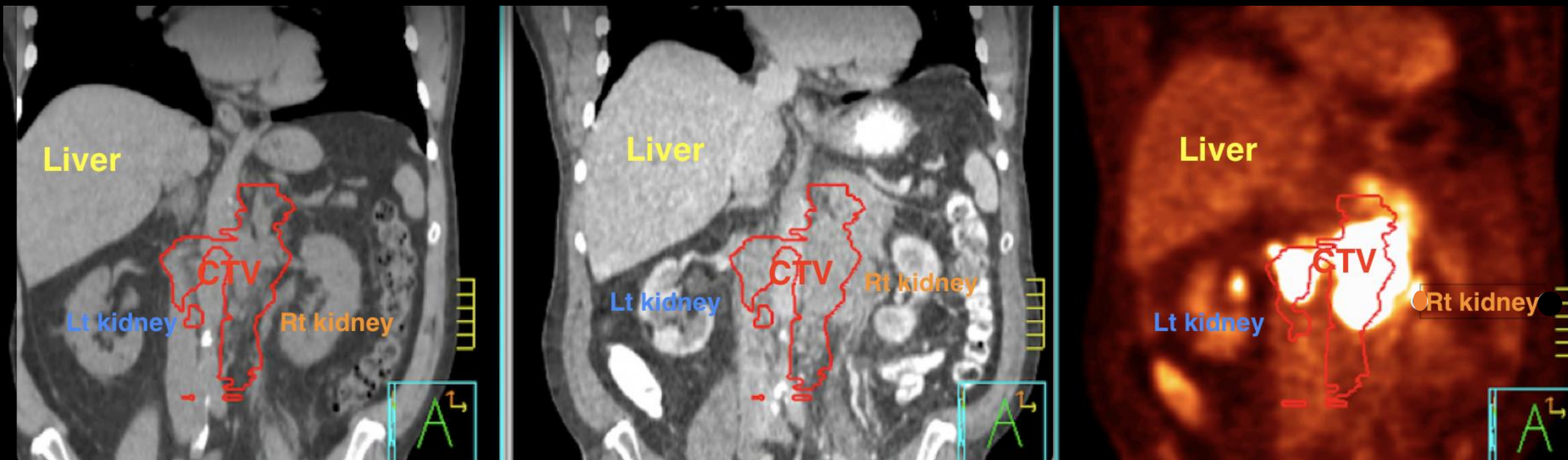
Please note that the **CTV** will only include the site of where the mass was prior to chemotherapy, taking into account treatment response. Therefore, the **CTV (red)** is smaller than the original tumor at diagnosis.

Axial images showing **CTV (red)** contours on the CT simulation (left panel), corresponding prechemotherapy diagnostic CT (middle panel) and prechemotherapy diagnostic PET/CT scan (right panel).



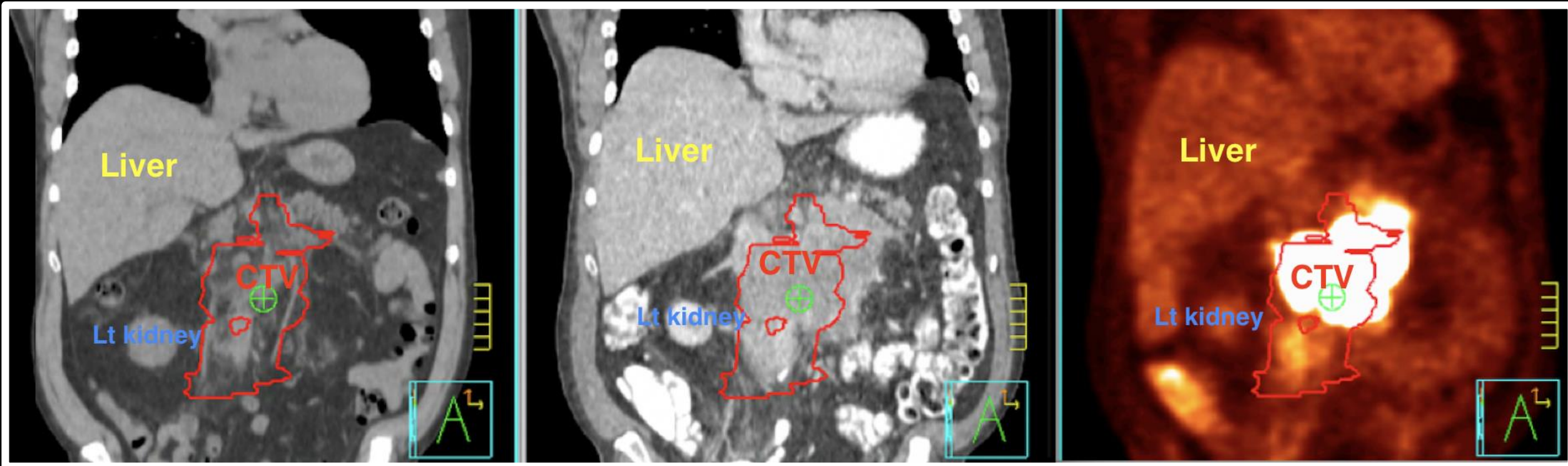
Please note that the **CTV** will only include the site of where the mass was prior to chemotherapy, taking into account treatment response. Therefore, the **CTV (red)** is smaller than the original tumor at diagnosis.

Coronal images showing **CTV (red)** contours on the CT simulation (left panel), corresponding pre-chemotherapy diagnostic CT (middle panel) and pre-chemotherapy diagnostic PET/CT scan (right panel).



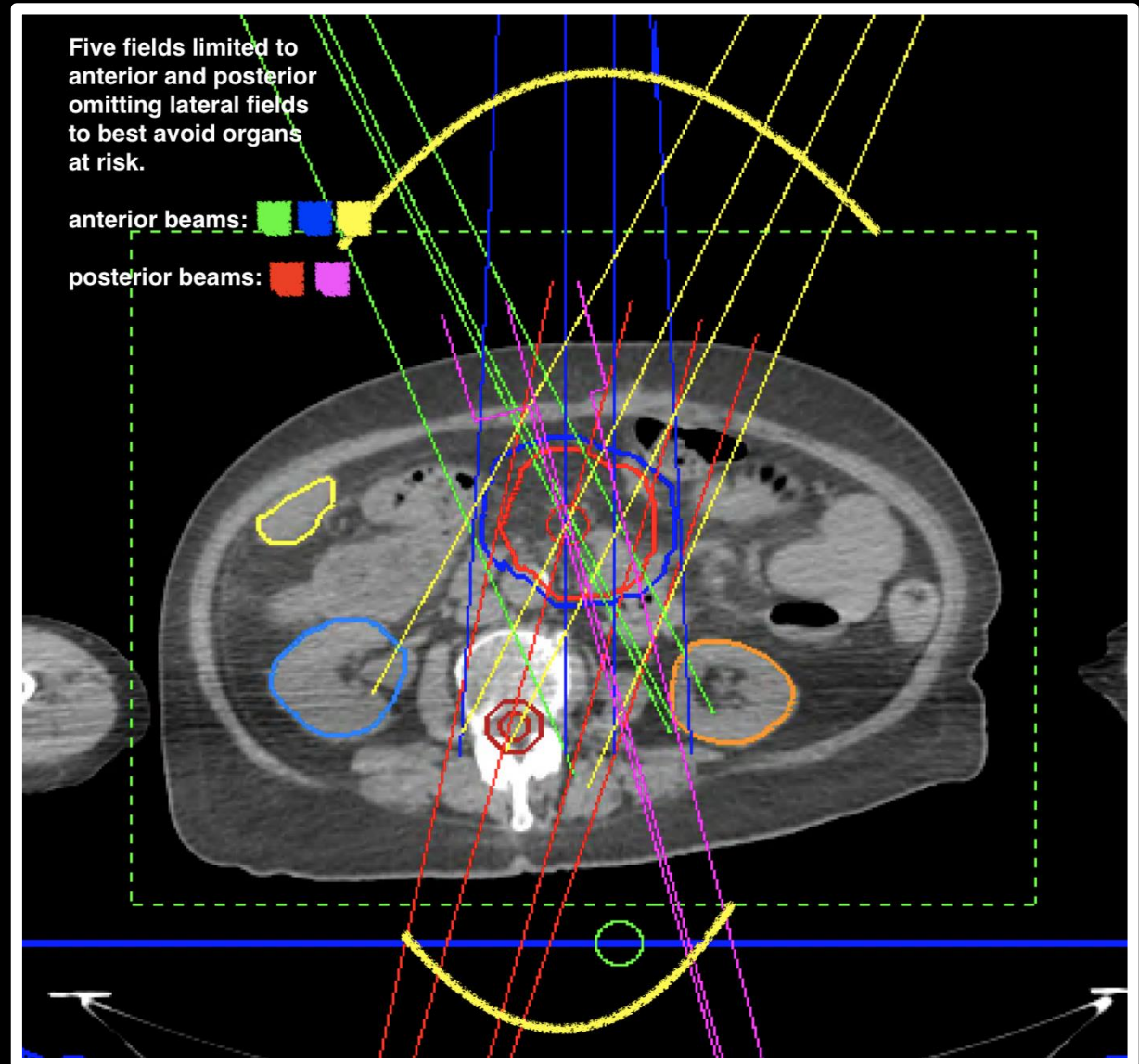
Please note that the **CTV** will only include the site of where the mass was prior to chemotherapy, taking into account treatment response. Therefore, the **CTV (red)** is smaller than the original tumor at diagnosis.

Coronal images showing **CTV (red)** contours on the CT simulation (left panel), corresponding prechemotherapy diagnostic CT (middle panel) and prechemotherapy diagnostic PET/CT scan (right panel).

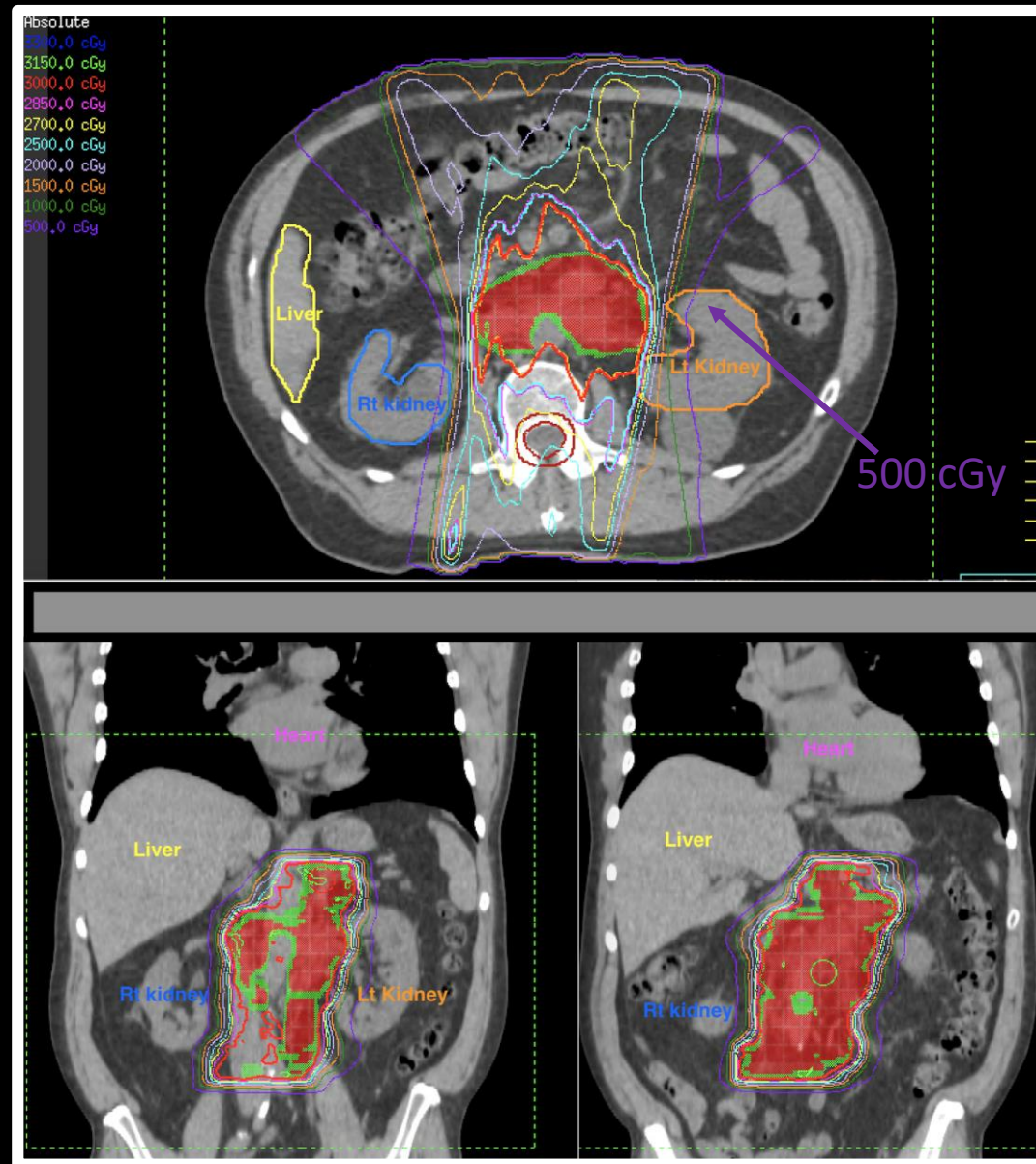


Please note that the **CTV** will only include the site of where the mass was prior to chemotherapy, taking into account treatment response. Therefore, the **CTV (red)** is smaller than the original tumor at diagnosis.

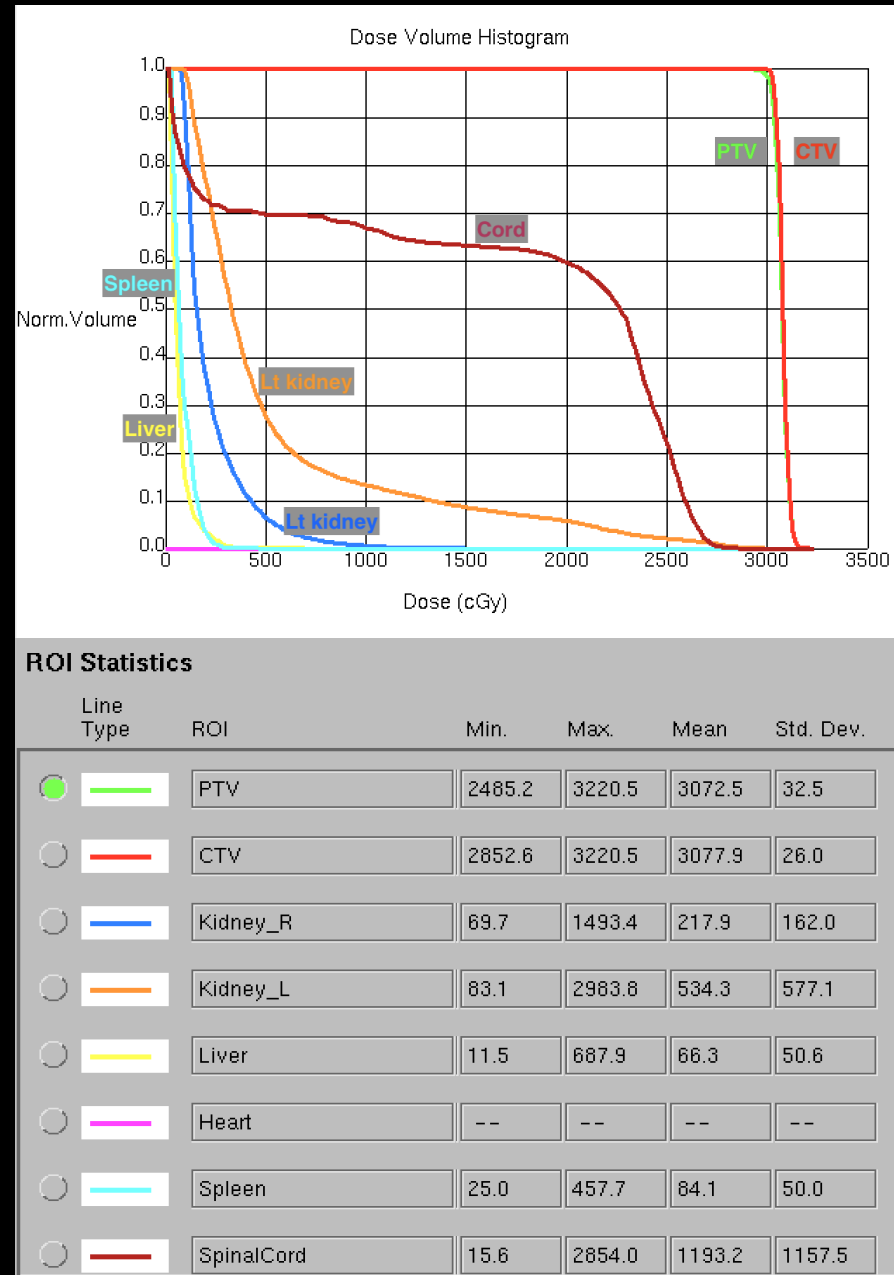
IMRT with beams limited to anterior and posterior orientations to avoid excess dose to both kidneys were used.



Note that the 5 Gray line spares the majority of both kidneys.



Dose volume distribution with all critical organs well below organ tolerance



Take home message:

Treating abdominal locations is possible when being mindful of organ motion.

Tools to reduce inter-fraction motion include deep inspiration breath hold as well as treatment with an empty stomach (NPO for at least 6 hours)

IMRT while avoiding lateral beams will offer a conformality while keeping critical organs way under constraints