

A New Approach in Radiotherapy for the Management of Large Intrahepatic Cholangiocarcinoma

Background

- Intrahepatic cholangiocarcinoma (IHCC) often presents as large tumors with limited role for local therapy.
- Higher radiation therapy (RT) doses may improve outcomes in this patient population.
- We present our experience with RT treatment in patients with large IHCC.

Objective

- Our aim is to evaluate if an increased RT dose may improve outcomes in patients with large IHCC.

Methods

- We performed a retrospective review of patients with IHCC treated with RT at The University of Texas MD Anderson Cancer Center.
- Patients with a gross tumor volume (GTV) of 800cc or more were eligible for inclusion.
- The main outcomes were overall survival (OS), local progression- (LPFS), and distant metastasis- free survival (DMFS) from the beginning of RT.
- Treatment toxicity was assessed by regularly documented CTCAE criteria.

	N=12
Age	60.0 (55.0-66.8)
Sex	
Female	4 (33.3)
Male	8 (66.7)
T Stage	
2	7 (58.3)
3	4 (33.3)
4	1 (8.3)
N Stage	
0	5 (41.7)
1	7 (58.3)
M Stage	
0	8 (66.7)
1	4 (33.3)

	N=12
Chemotherapy pre-RT	
Yes	11 (91.7)
No	1 (8.3)
RT Technique	
IMRT	8 (66.7)
Proton	4 (33.3)
RT Dose	67.5 (60-73.1)
RT fractions	15 (15-15)
Concurrent ChemoRT	
Yes	9 (75.0)
No	3 (25.0)
Chemotherapy post-RT	
Yes	7 (58.3)
No	5 (41.7)

OS From RT

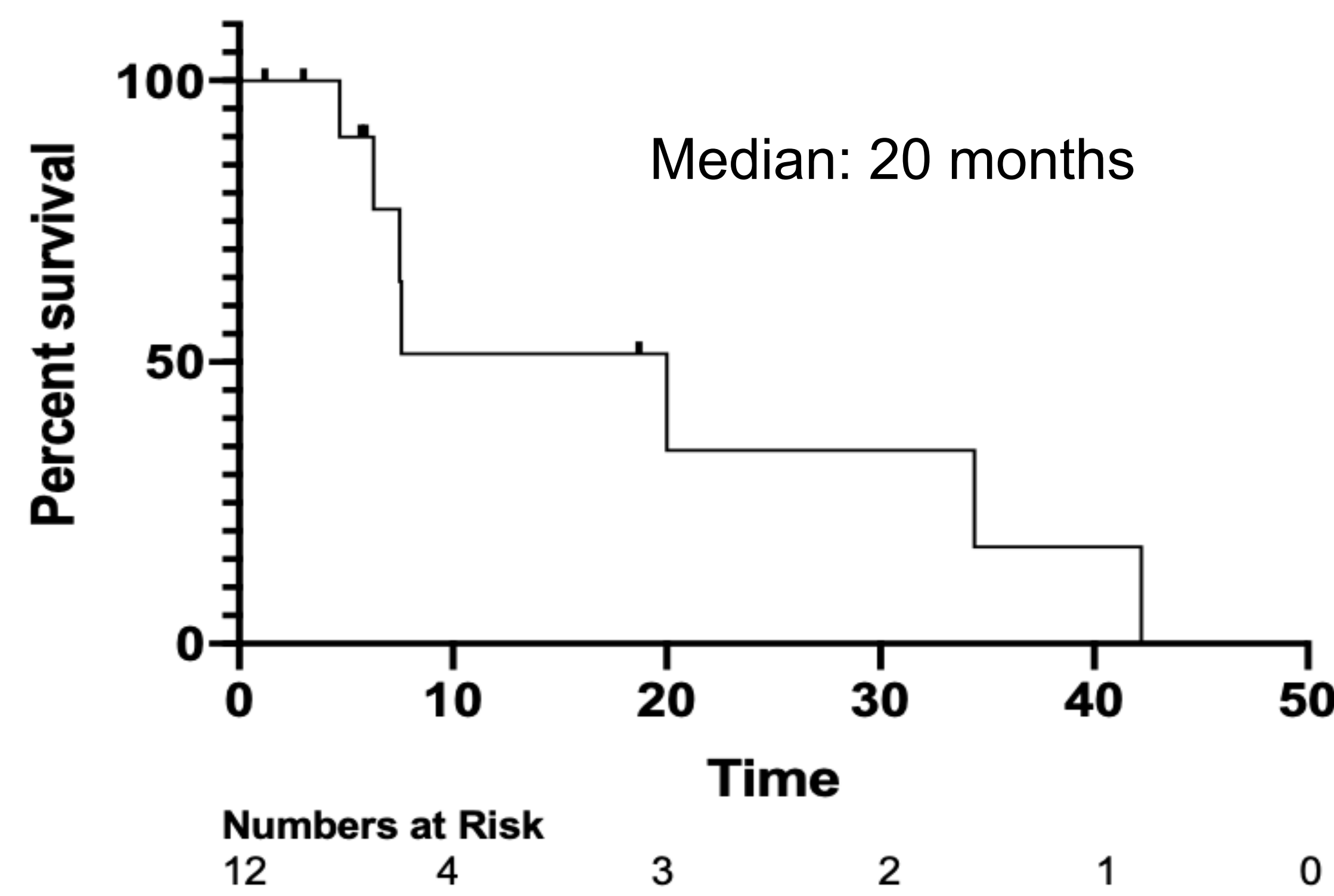


Figure 1.

Figures

LRFS From RT

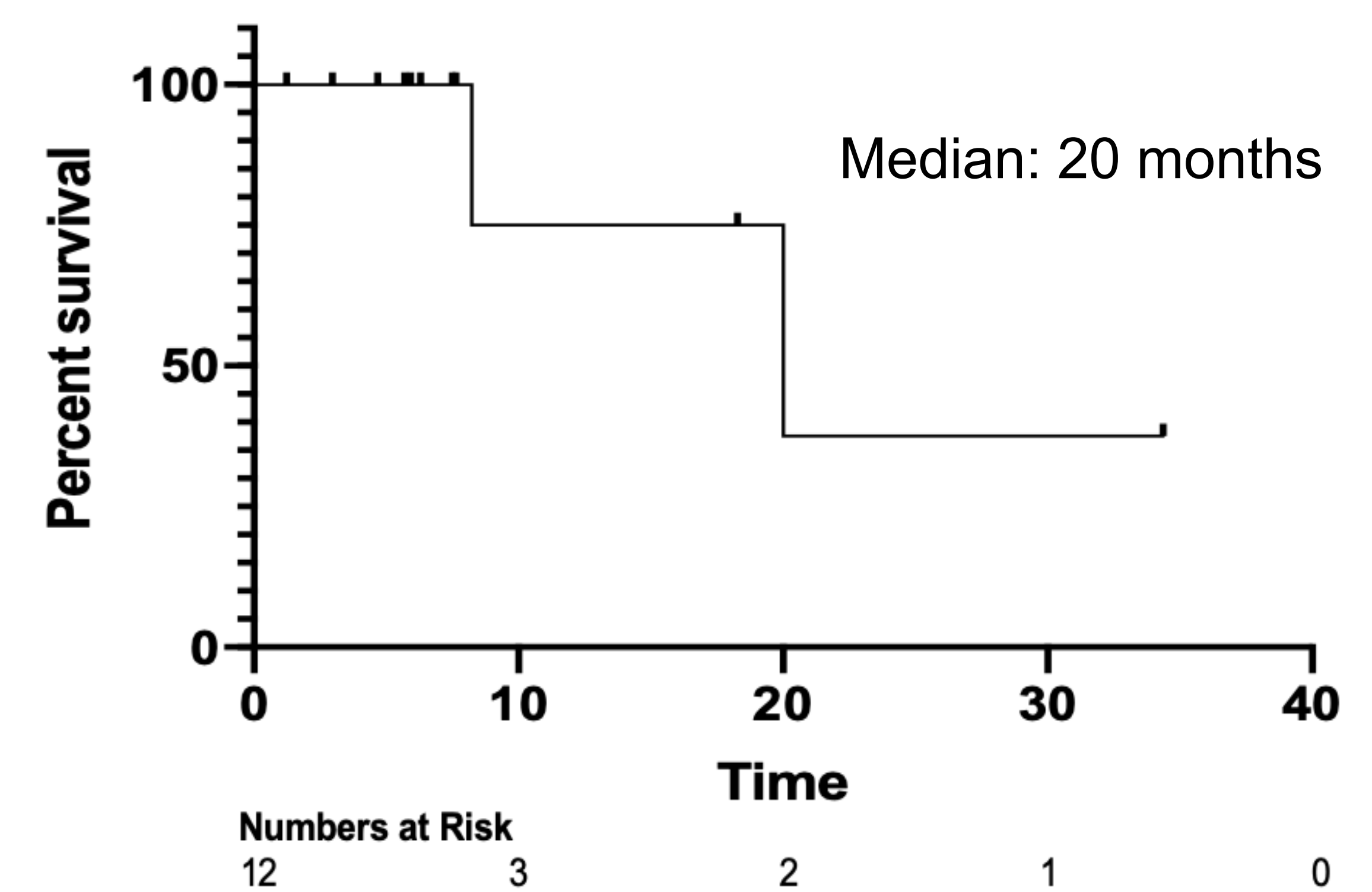


Figure 2.

Liver Mets Free Survival From RT

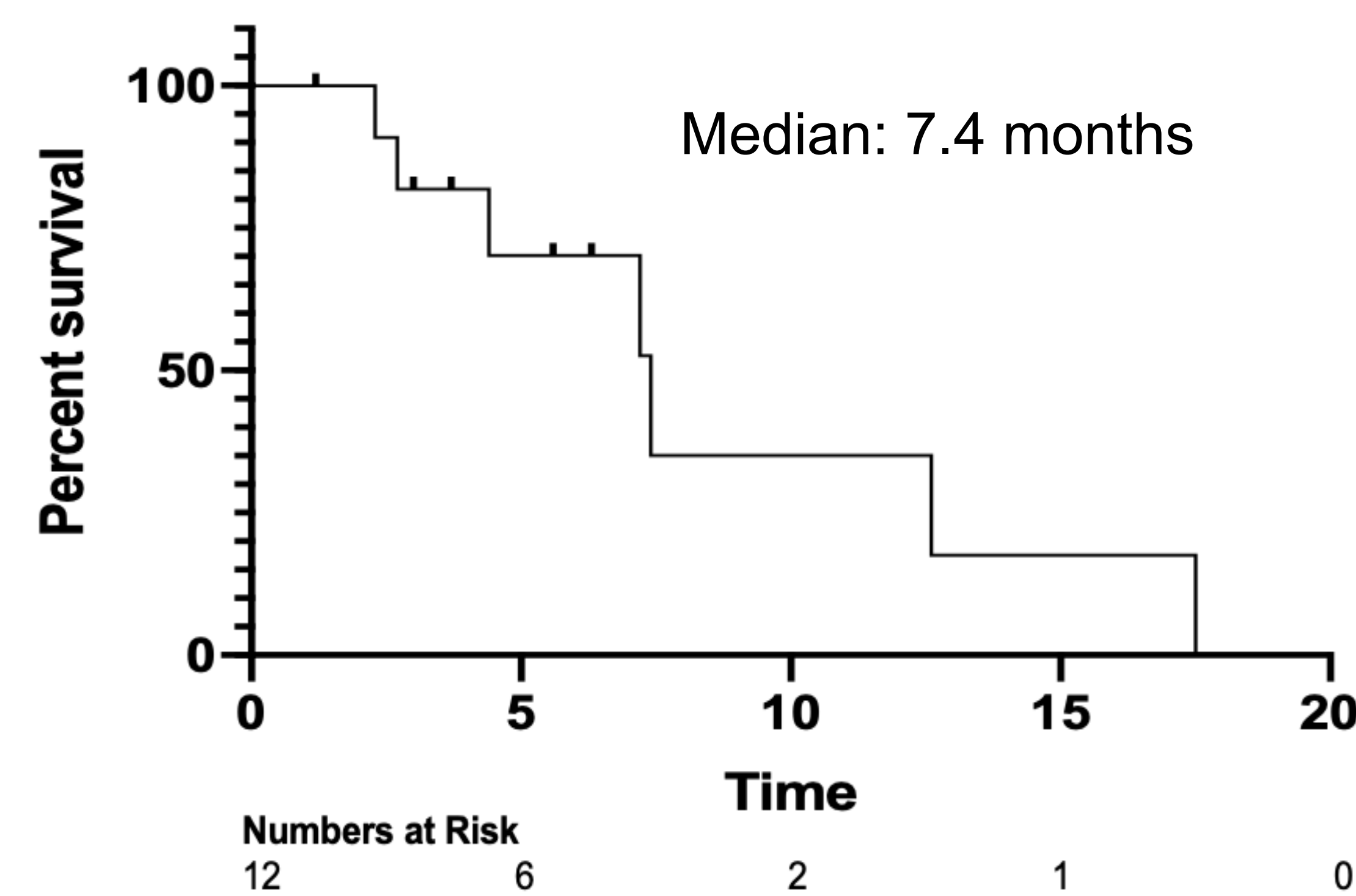


Figure 3.

Distant Mets Free Survival From RT

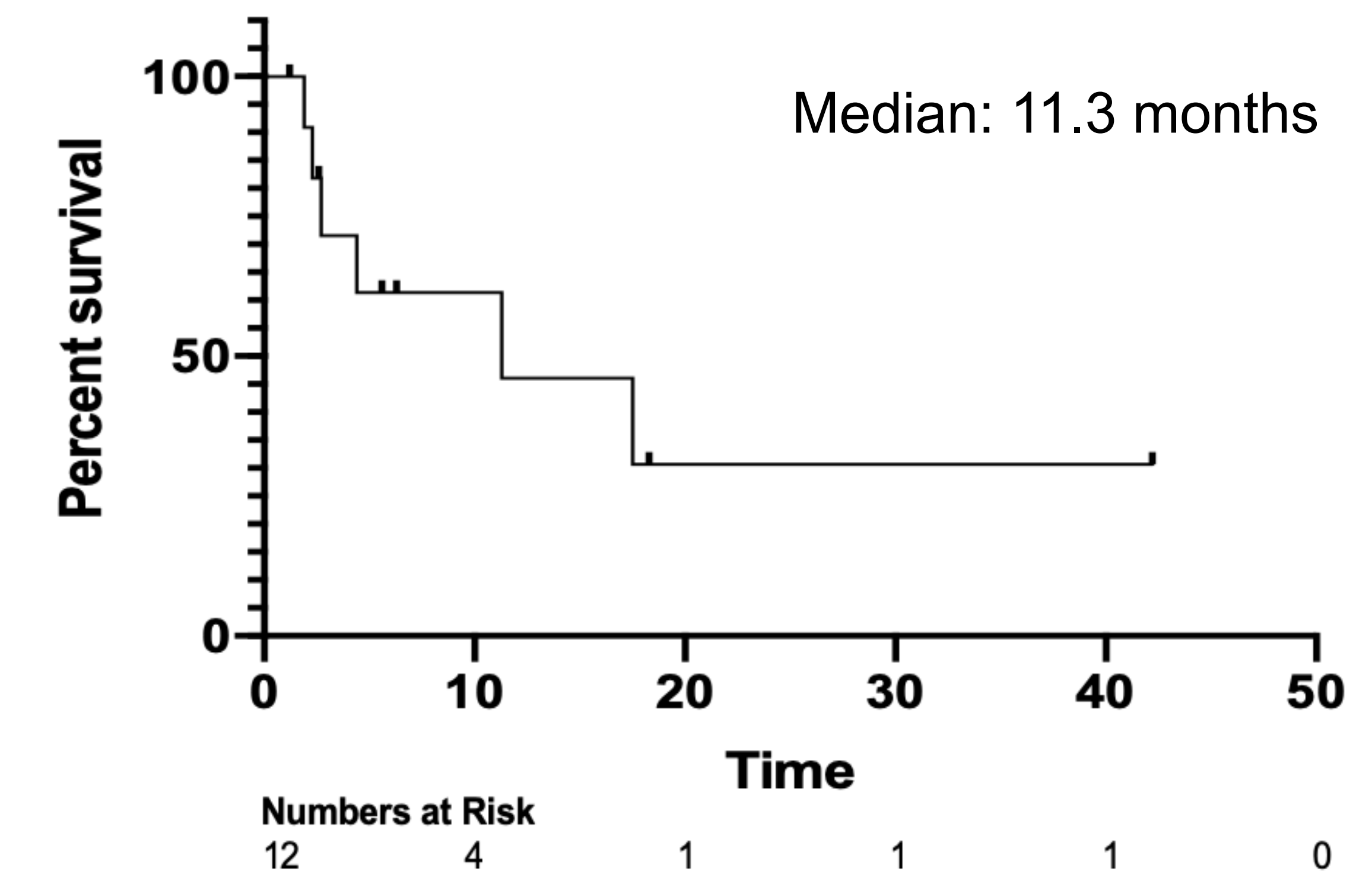
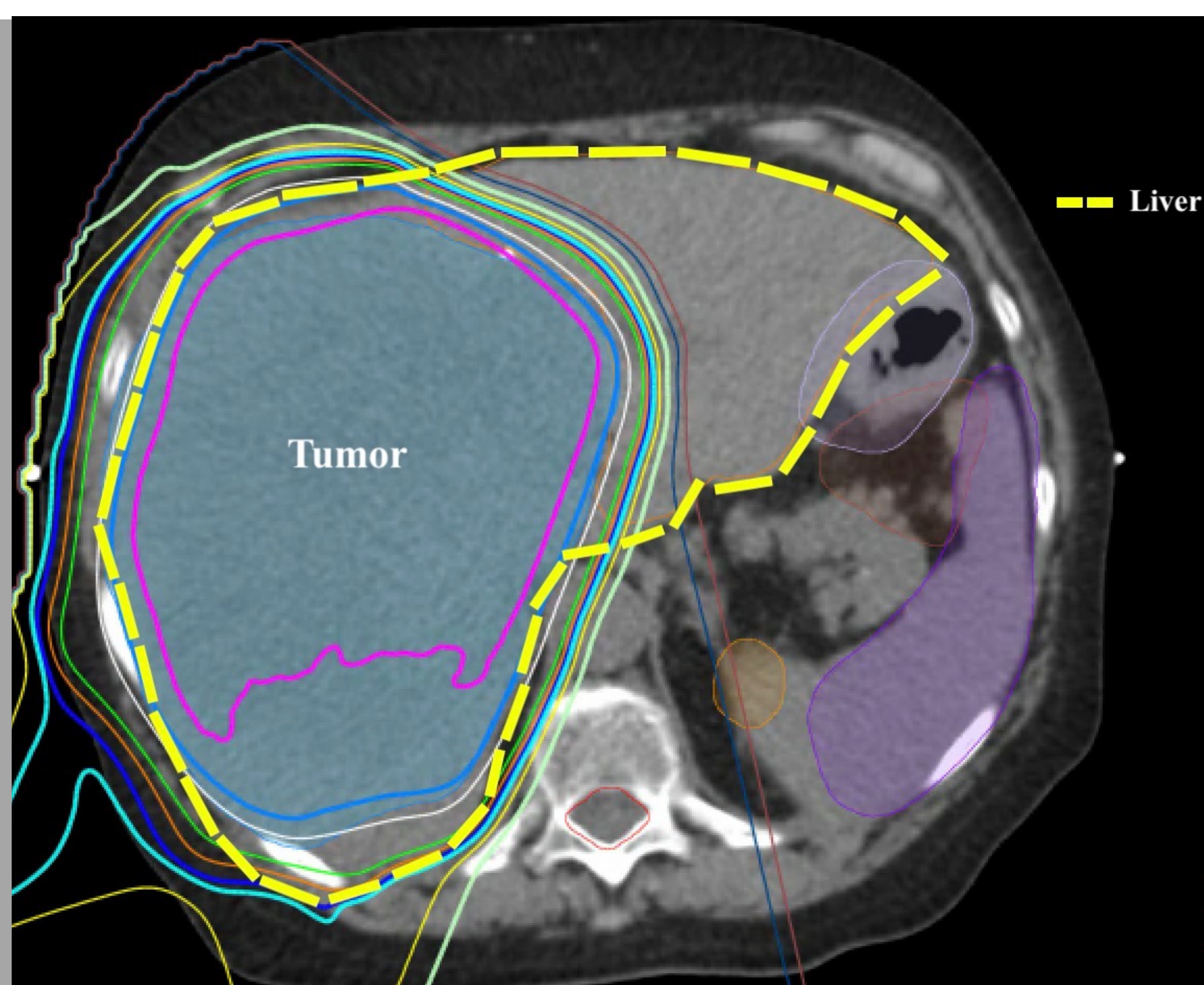


Figure 4.

Figure 5. Axial view of patient liver with tumor of a GTV of 2010.6cc.



Isodoses (cGy)

- 8750
- 6400
- 6000
- 5000
- 4500
- 4000

Results

- GTV/Liver Volume : 43.9% (31.1-61.8).
- The median GTV was 1277.7cc (IQR 900.0-1929.4).
- Only 2 patients (16.7%) died from tumor-related liver failure.
- The main adverse events noted were grade 1 fatigue (9, 75.0%), nausea (6, 50.0%) and abdominal pain (6, 50.0%).

Conclusions

- Patients with large IHCC showed excellent clinical outcomes in response to high dose RT, within minimal toxicity.
- Future prospective studies are needed to better define the role of RT and possibly systemic treatments in this patient population.