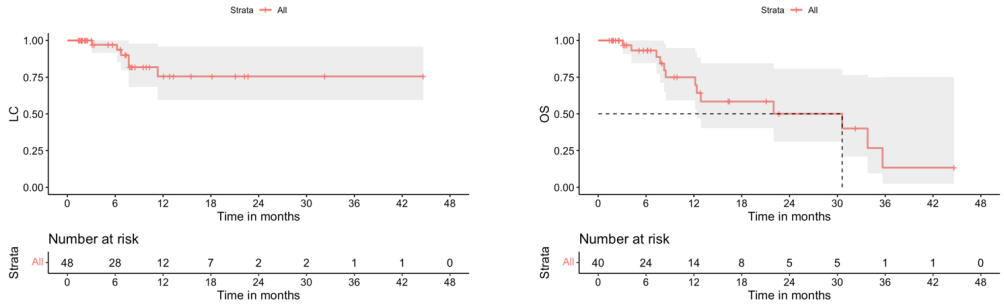
[4]University Hospital RWTH Aachen, Aachen, Department Visceral and Transplantation Surgery, Aachen, Germany; [5]University Hospital RWTH Aachen, Department Diagnostic and interventional Radiology, Aachen, Germany

Purpose or Objective
Liver metastases are the most common liver tumors. In the oligometastatic stage, surgical resection is the standard approach. Alternatives are local ablation (Radiofrequency and microwave ablation) or radio-ablation using the SBRT. We planned this single-center analysis to report the outcomes and toxicity of SBRT for liver metastases.

Materials and Methods
Patients with oligometastatic cancer, who received SBRT as an ablative tool for their liver metastasis and received at least one follow-up were included in the analysis. Excluded from the analysis are patients who received radiation in palliative settings to control symptoms (pain and biliary obstruction).

Results
We identified 56 patients, who received SBRT for liver metastases between 2013-2022 in our local registry. Sixteen patients were excluded (10 patients received a palliative dose for symptom control in the polymetastatic stage and 6 patients did not receive follow-up in our center until the analysis). Forty Patients with 48 lesions were included in the analysis (23 patients with colorectal cancer, 5 with pancreatic cancer, 4 with Lung cancer, and 8 other malignancies). The median prescribed dose to PTV as EQD2¤/¤10 was 70.3 Gy (49.6-93.8) in median 5 fractions (3-12). SBRT was applied as image-guided radiation in all patients and fiducial markers were used in a subset of patients starting from the year 2018. The median follow-up and median overall survival were 7.5 and 30.6 months, respectively, and the local control (LC) at 6, 12, and 24 months were 97.1%, 75.5% & 75.5%. respectively.
None of the patients experienced radiation-induced disease "RILD". No grade 4 or 5 toxicity was observed after SBRT. Grade 3 toxicity was diagnosed in 2 patients (5%), one with isolated elevation gamma-Glutamyl transferase without symptoms of biliary obstruction, and the other patient required a biliary stent for biliary stenosis.



Conclusion
Our single-center experience confirms SBRT as a reliable ablative tool in liver metastases with an acceptable low rate of grade ≥ 3 toxicity.

PO-1378 Isotoxic high-dose SBRT versus CRT for localized pancreatic cancer : a single center evaluation

M. Manderlier[1], J. Navez[2], M. Hein[3], J. Engelholm[4], J. Closset[2], M.A. Bali[5], D. Van Gestel[1], L. Moretti[1], J. Van Laethem[6], C. Bouchart[1]

[1]HUB Institut Jules Bordet, Department of Radiation Oncology, Brussels, Belgium; [2]Hôpital Universitaire Erasme, Department of Hepato-biliary-pancreatic surgery, Brussels, Belgium; [3]Université Libre de Bruxelles, Faculty of Medicine, Brussels, Belgium; [4]Hopitaux Iris Sud, Department of Radiology, Brussels, Belgium; [5]HUB Institut Jules Bordet, Department of Radiology, Brussels, Belgium; [6]Hôpital Universitaire Erasme, Department of Gastroenterology, Hepatology and Digestive Oncology, Brussels, Belgium

Purpose or Objective
In lack of direct comparative evidence of isotoxic high-dose stereotactic body radiotherapy (iHD-SBRT), we compared the clinical outcomes of patients treated for localized pancreatic ductal adenocarcinoma (PDAC) by iHD-SBRT with those of patients treated with conventional chemoradiotherapy (CRT) in the same tertiary cancer center.

Materials and Methods
From January 2006 to January 2021, all consecutive biopsy-proven borderline/locally advanced (BR/LA) patients treated with iHD-SBRT (35Gy in 5 fractions with a simultaneous integrated boost up to 53Gy; January 2018 - January 2021) or conventional CRT (45-60Gy in 25-30 fractions; January 2006 – December 2017) as a primary neoadjuvant or definitive treatment strategy were retrospectively included. In the CRT group, a clinical target volume (CTV) was generated using an expansion of 1 cm from the gross tumour volume (GTV) and completed by the elective nodal regions around the superior mesenteric vessels, portal vein and celiac axis. For the iHD-SBRT group, an internal target volume (ITV) accounting for respiratory motion was created for the GTV and the tumour-vessel interface structure (whole circumference of abdominal vessels in contact with GTV). iHD-SBRT was integrated in a total neoadjuvant strategy, before surgical exploration and after induction chemotherapy by modified FOLFIRINOX for ideally 6 cycles. The median overall survival (mOS) was further

evaluated trough uni- and multivariate analyses. The median progression free survival (mPFS) and the 1-year local control (1y-LC) were also reported.

Results

82 patients (41 treated with iHD-SBRT and 41 with CRT) were included. The main baseline characteristics of both groups were comparable. Significant differences in terms of duration and type of induction chemotherapy, and oncological resection rates were identified between the groups (Table1). After a median follow-up of 19.7 months, the mOS (22.5 vs. 15.9 months, p<.001), mPFS (16.7 vs. 11.5 months, p=.011) and 1y-LC (75.8 vs. 39.3%, p=.004) were all in favour of the iHD-SBRT group (Figure 1). Through univariate Cox regression analysis, the following factors were significantly associated with the mortality risk: number and duration of induction chemotherapy cycles, type of induction chemotherapy and radiotherapy received, and oncological resection. A multivariate Cox regression analysis for the mortality risk associated with radiotherapeutic treatments was performed. After adjusting for the main significant confounding factors highlighted during univariates analysis, multivariate analysis demonstrated that unlike CRT, iHD-SBRT was significantly associated with a lower mortality risk for BR/LA PDAC (HR 0.39 [CI95% 0.18 – 0.83], p=.014).

Table 1 – Main baseline characteristics of the iHD-SBRT and the conventional CRT groups.

	Global cohort (n= 82)	CRT group (n=41)	iHD-SBRT group (n=41)	P-value Chi²
Gender				
Female (n=35)	42.7%	48.8%	36.6%	0.264
Male (n=47)	57.3%	51.2%	63.4%	
Age (years)				
<60 (n=41)	50.0%	56.1%	43.9%	0.269
≥60 (n=41)	50.0%	43.9%	56.1%	
CA19.9 values at diagnosis (kU/L)				
<200 (n=52)	63.4%	58.5%	68.3%	0.359
≥200 (n=30	36.6%	41.5%	31.7%	
Primary Site				
Head/uncus/isthmus (n=59)	72.0%	61.0%	82.9%	0.027
Body/tail (n=23)	28.0%	39.0%	17.1%	
Tumour diameter (mm)				
<40 (n=45)	54.9%	56.1%	53.7%	0.824
≥40 (n=37)	45.1%	43.9%	46.3%	
Staging TNM 8th ed.				
IB (n=9)	11.0%	12.2%	9.8%	0.422
II A/B (n=19)	23.2%	17.1%	29.3%	
III (n=54)	65.8%	70.7%	60.9%	
Resection status				
Borderline (n=36)	43.9%	41.5%	46.3%	0.656
Locally advanced (n=46)	56.1%	58.5%	53.7%	
Number of chemotherapy cycles (induction)	26.8%	51.2%	2.4%	<0.001
0-3 (n=22)	58.6%	39.0%	78.0%	
4-8 (n=48)	14.6%	9.8%	19.5%	
>8 (n=12)				
Time of induction (months)				
<2 (n=22)	26.8%	43.9%	9.8%	0.002
≥2 - <4 (n=38)	43.6%	39.0%	53.7%	
≥4 (n=22)	26.8%	17.1%	36.5%	
Type of induction chemotherapy				
None (n=10)	12.2%	24.4%	0.0%	<0.001
mFFX / Gem-Np (n=53)	64.6%	29.3%	100.0%	
Gem-based, other than Gem-Np (n=19)	23.2%	46.3%	0.0%	
Oncological resection				
No (n=59)	72.0%	90.2%	53.7%	<0.001
Yes (n=23)	28.0%	9.8%	46.3%	

iHD-SBRT= isotoxic high-dose stereotactic body radiation therapy ; CRT= chemoradiotherapy; mFFX= modified FOLFIRINOX; Gem-Np= gemcitabine/nab-paclitaxel, Gem= gemcitabine

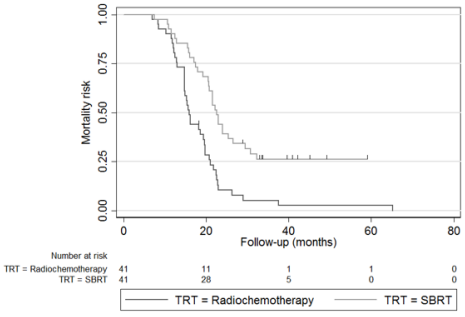


Figure 1 – Kaplan-Meier plot of overall survival of the iHD-SBRT and CRT cohort (n=82).

Conclusion

iHD-SBRT is a promising radiotherapeutic option and may offer an improvement in mOS in comparison with conventional CRT for localized PDAC. Further studies are required to confirm the exact role of iHD-SBRT and the optimal therapeutic sequence for the treatment of localized PDAC.

PO-1379 Benefit of plan adaptation on gastric normal tissue complication probability in abdominal SABR

K. Owczarczyk[1], H. Harford-Wright[1], S. Shergill[1], B. George[1], A. Gaya[1], J. Good[1]

[1]GenesisCare UK, Radiotherapy, London, United Kingdom

Purpose or Objective

The role of SABR in the treatment of oligometastatic disease (OMD) is firmly established following recently updated results of the SABR COMET trial [1]. Abdominal targets constituted only 22% of cases in this trial, yet they accounted for one of