

## Supplementary Material

### *S1. Patient selection*

Standard demographic data, history of chemotherapy (type, targeted therapy, duration, time between end of chemotherapy and surgery), and data on colorectal metastatic cancer were documented. Biochemical variables including liver parameters, platelets and hemoglobin were recorded before and after chemotherapy, and after surgery. The aspartate aminotransferase to platelet ratio index (APRI) was calculated before liver resection.

### *S2. Surgical methods*

Surgery characteristics described included the extent of liver resection, combination with intraoperative radiofrequency ablation (IRFA), association with extra hepatic procedures [1]. Postoperative complications were recorded according to Dindo-Clavien system, based on medical and paramedical reports [2]. Grade 3 or higher was considered as a major complication. International Study Group of Liver Surgery (ISGLS) definition for hepatic failure, describing three grades (A to C) based on biological and clinical signs, including transitory hepatic failure (grade A), was used [3]. Postoperative mortality was defined by 90-day mortality [4].

## References

- [1] Evrard S, Poston G, Kissmeyer-Nielsen P, Diallo A, Desolneux G, Brouste V, et al. Combined ablation and resection (CARE) as an effective parenchymal sparing treatment for extensive colorectal liver metastases. *PLoS One* 2014;9(12):e114404.
- [2] Dindo D, Demartines N, Clavien PA. Classification of surgical complications: a new proposal with evaluation in a cohort of 6336 patients and results of a survey. *Ann Surg* 2004;240(2):205-13.
- [3] Rahbari NN, Garden OJ, Padbury R, Brooke-Smith M, Crawford M, Adam R, et al. Posthepatectomy liver failure: a definition and grading by the International Study Group of Liver Surgery (ISGLS). *Surgery* 2011;149(5):713-24.
- [4] Mayo SC, Dhore AD, Nathan H, Edil BH, Hirose K, Anders RA, et al. Refining the definition of perioperative mortality following hepatectomy using death within 90 days as the standard criterion. *HPB (Oxford)* 2011;13(7):473-82.

**Supplementary Table S1: Post-operative complications according to Dindo-Clavien system and details of liver-related complications according to ISGLS score**

Variable	Number of patients	%	Number (min – max)
<b>Post-operative complications</b>			
Yes	78	53.1	
No	69	46.9	
Major complications*	29	19.7	
<b>Liver-related complications</b>			
Yes	31	21.1	
No	116	78.9	
Hemorrhage	4	2.7	
Biliary complications	13	8.8	
Liver failure	15	10.2	
Grade 1	13	8.8	
Grade 2	2	1.4	
Grade 3	0	0	
Hemorrhage + liver failure	1	0.7	
<b>Average number of blood transfusion</b>			1 (0 – 13)
<b>Median duration of hospitalization, days</b>			10 (4 – 47)

*\*Major complications: grade  $\geq 3$*

**Supplementary Table S2. Literature review of studies on the impact of chemotherapy on non-tumoural liver and its consequence on post-operative outcomes. The results concerning the impact on chemotherapy on post-operative outcomes are not presented in this table.**

Reference	Hepatic resection (N)	Patients with NCT, (N)	Type of pre-operative chemotherapy (NCT)	Histologic lesions in non tumoral liver	Incidence (%)	Significate risk factor, at multivariate analysis	Post-operative (PO) impact of the histologic lesions
<b>Aloia (2006)</b>	92	75	5FU or FOLFOX	Sinusoidal dilation Peliosis NRH Steatosis	23 after NCT 31 after NCT 3 after NCT 13 after NCT	NCT NCT NCT	More transfusion More transfusion
<b>Vauthey (2006)</b>	406	248	5FU or FOLFOX or FOLFIRI	Grade 2 or 3 sinusoidal dilation Steatosis > 30% Steatohepatitis	5.4 8.9 8.4	Oxaliplatin Irinotecan	None None PO mortality, liver failure
<b>Pawlik (2007)</b>	212	153	5FU and/or FOLFOX and/or FOLFIRI	CALI score Grade 3 sinusoidal dilation Steatosis>30%  Steatohepatitis	4.6 18.3 after NCT  1.9	NCT, diabetes, BMI>30 NCT Irinotecan, diabetes, BMI>30	None None None None
<b>Mehta (2007)</b>	173	130	5FU and/or FOLFIRI Or FOLFOX	Grade 2 sinusoidal dilation	52.8	Oxaliplatin	None
<b>Brouquet (2009)</b>	146	146	5FU and/or FOLFOX and/or FOLFIRI	CALI score  Grade 2 or 3 sinusoidal dilation Steatosis>30% Steatohepatitis	51  34.2 21.9 10.3	BMI>27, diabetes, interval NCT- Surgery<4 weeks Oxaliplatin BMI>27 BMI>27	PO complications  None None None
<b>Rubbia-Brandt (2010)</b>	385	274	FOLFOX and/or FOLFIRI	Grade 2 or 3 sinusoidal dilation Peliosis Steatosis Steatohepatitis	54.3 after NCT  10.6 after NCT 39.8 after	Oxaliplatin  Oxaliplatin	Not evaluated

					NCT 0		
<b>Ryan (2010)</b>	334	132	5FU and/or FOLFOX and/or FOLFIRI	Grade 2 or 3 sinusoidal dilation CVI score $\geq$ 3* Steatosis>33% Steatohepatitis	5.9 15.7 9.9 2.4	Oxaliplatin BMI>30 BMI>30	None None None None
<b>Pilgrim (2012)</b>	232	133	NM*	Sinusoidal dilation Steatosis  Steatohepatitis	19 18  4	NCT (high grade lesions) Diabetes, BMI>30  Metabolic syndrome	None PO morbidity, respiratory complications and wound infection None
<b>Wolf (2013)</b>	384	250	FOLFOX and/or FOLFIRI	Sinusoidal dilation Steatosis Steatohepatitis	10 35 4	BMI>25, diabetes, irinotecan	None None None
<b>Vigano (2015)</b>	478	478	FOLFOX and/or FOLFIRI	NRH Moderate or severe SOS Steatohepatitis	18.2 38.7 10	Oxaliplatin	PO liver failure None None
<b>Martins (2016)</b>	140	70	5FU and/or FOLFOX and/or FOLFIRI	Peliosis Moderate or severe SOS Steatosis Steatohepatitis	25.7 after NCT 21.4 after NCT 59.3	NCT NCT Diabetes	PO morbidity, liver failure PO morbidity, liver failure Reduced PO morbidity Reduced PO morbidity

*NCT: neoadjuvant chemotherapy*

*NRH: nodular regenerative hyperplasia*

*NM: not mentioned*

*CVI score: combined vascular injury score*