



FIRST WORLD CONGRESS OF THE
**INTERNATIONAL
LAPAROSCOPIC
LIVER SOCIETY**
LAPAROSCOPIC LIVER RESECTION;
FROM INNOVATION TO STANDARD
PRACTICE

JULY 6-8 2017
MAISON DE LA CHIMIE
PARIS - FRANCE



Role of laparoscopic approach in colorectal liver metastasis: An international multi-center data analysis using LiverMetSurvey

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Disclosure Statement of Financial Interest

Clarisse EVENO

“Nothing To Disclose”

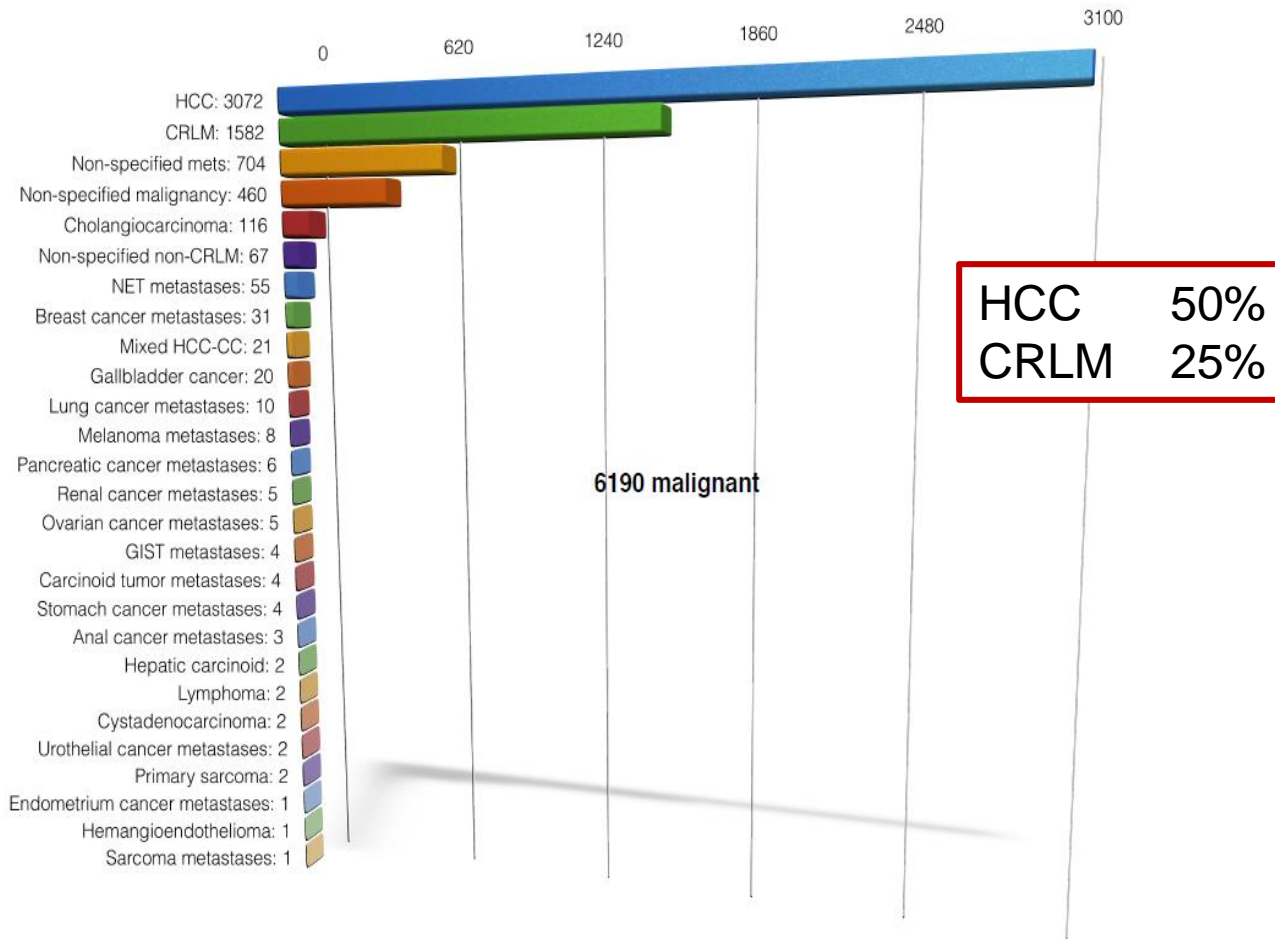
Background

- Laparoscopic liver resection is rapidly increasing
- While its results and indications are well studied for HCC, there are less available data in CRLM
- There is only one RCT comparing open and laparoscopic minor resection (OSLO-COMET)
- Need for large series to compare short and long term outcomes

Comparative Short-term Benefits of Laparoscopic Liver Resection: 9000 Cases and Climbing

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Javier Briceno, MD, PhD,† and Go Wakabayashi, MD, PhD, FACS*||

Ann Surg 2016;263:761–777



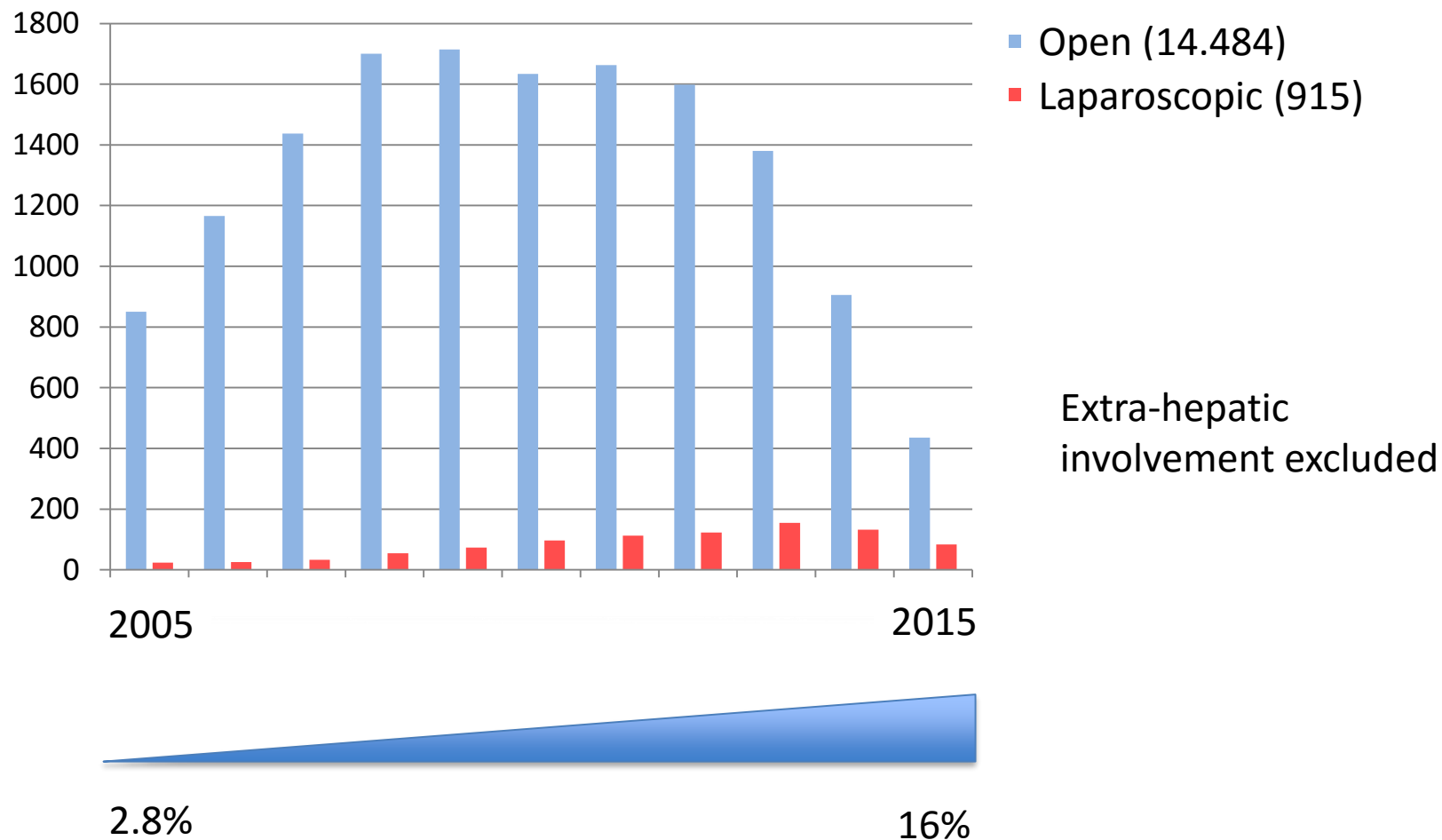
Limitations of LLR for CRLM

- Often multiple and bilobar
- Importance of full intraoperative liver exploration: no palpation
- Concerns about overlooked lesions
 - margins
 - parenchymal sparing
- Staged procedures
- Management of the primary tumor

Aim of this study

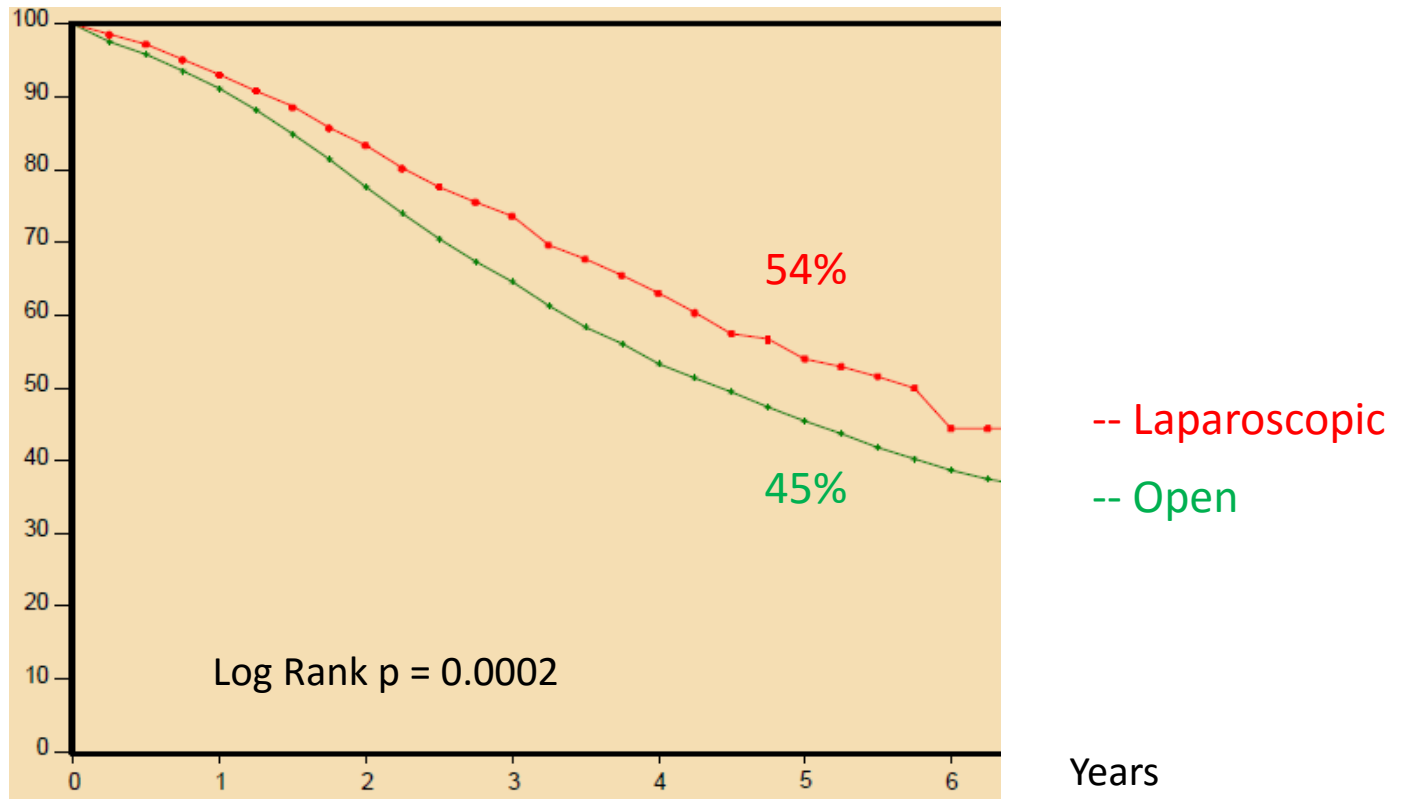
Analyze the outcomes of laparoscopic approach in CRLM in a large cohort of patients using LiverMetSurvey, an international multi-center register

15,399 Patients from LiverMetSurvey registry



Increasing rate of laparoscopic resection

Overall Survival



Total	1 yr	2 yrs	3 yrs	4 yrs	5 yrs
14342	9070	6055	3891	2404	1459
909	484	302	177	96	56

Features: 2 different populations

Variables	Open N = 14.484 n (%)	Lap N = 915 n(%)	P
Neoadjuvant chemo	7329 (53)	384 (43)	<0.0001
Cycles > 6	2467 (42)	102 (32)	0.001
Synchronous	8056 (57)	480 (53)	0.029
Bilobar	5347 (38)	189 (21)	<0.0001
Size of CRLM >50mm	2857 (24)	104 (14)	<0.0001
Number of CRLM >3	5113 (37)	136 (16)	<0.0001
Solitary	5763 (41)	587 (67)	<0.0001
Initial resectability	10673 (82)	794 (92)	<0.0001
CEA (\pm SD)	151 \pm 1079	75 \pm 410	0.0002
Major resection	8081 (56)	265 (29)	<0.0001
Combined ablation (RF)	1219 (9)	49 (6)	0.002

Propensity score; Matching 1:2

The matching criteria were:

- Age \geq 70 years
- Operative period [2005-2009] [2010-2015]
- Primary
 - Colon vs Rectum
 - T3-4
 - N+
- Synchronous/metachronous
- Number of CRLM (1 vs 2-3 vs >3)
- Size of CRLM(mm) (10-30 / 30-50 / >50)
- Unilateral/ Bilateral
- Initial resectability
- Neoadjuvant chemotherapy

Features after matching

Variables	Open N = 1180 n (%)	Lap N = 590 n (%)	P
Sex F	420 (36)	213 (36)	0.83
Age ≥ 70 years	402 (34)	205 (35)	0.78
Primary location: rectum	383 (33)	197 (34)	0.62
Primary T stage: T3/4	1034 (89)	506 (87)	0.13
Primary tumor node: N+	704 (60)	355 (60)	0.84
CEA (±SD)	77 ± 409	75 ± 440	0.94

Features after matching

Variables	Open N = 1180 n (%)	Lap N = 590 n(%)	P
Neoadjuvant chemo	498 (42)	243 (41)	0.68
Cycles > 6	156 (37)	70 (35)	0.52
Synchronous	599 (51)	298 (50)	0.92
Bilobar	191 (16)	97 (16)	0.89
Size of CRLM >50mm	164 (14)	77 (13)	0.62
Number of CRLM >3	97 (8)	50 (8)	0.98
Solitary	797 (68)	416 (71)	0.21

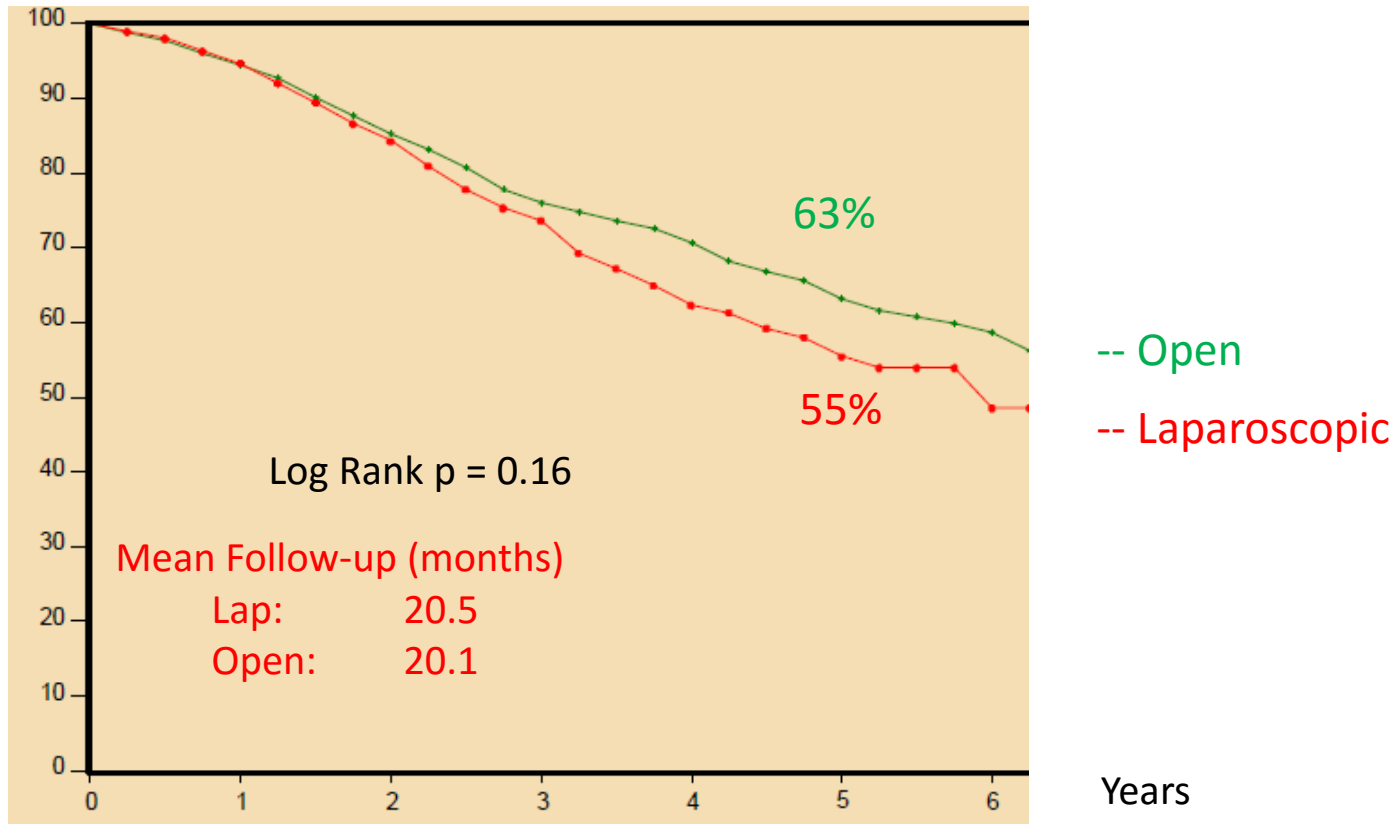
Features after matching

Variables	Open N = 1180 n (%)	Lap N = 590 n (%)	P
Major resection	445 (38)	146 (25)	<0.0001
Combined CR/Liver resection	196 (17)	92 (16)	NS
Combined ablation	54 (5)	27 (5)	NS
R1	157 (15)	69 (14)	NS
Adjuvant chemo	441 (50)	259 (56)	0.021

Postoperative morbidity

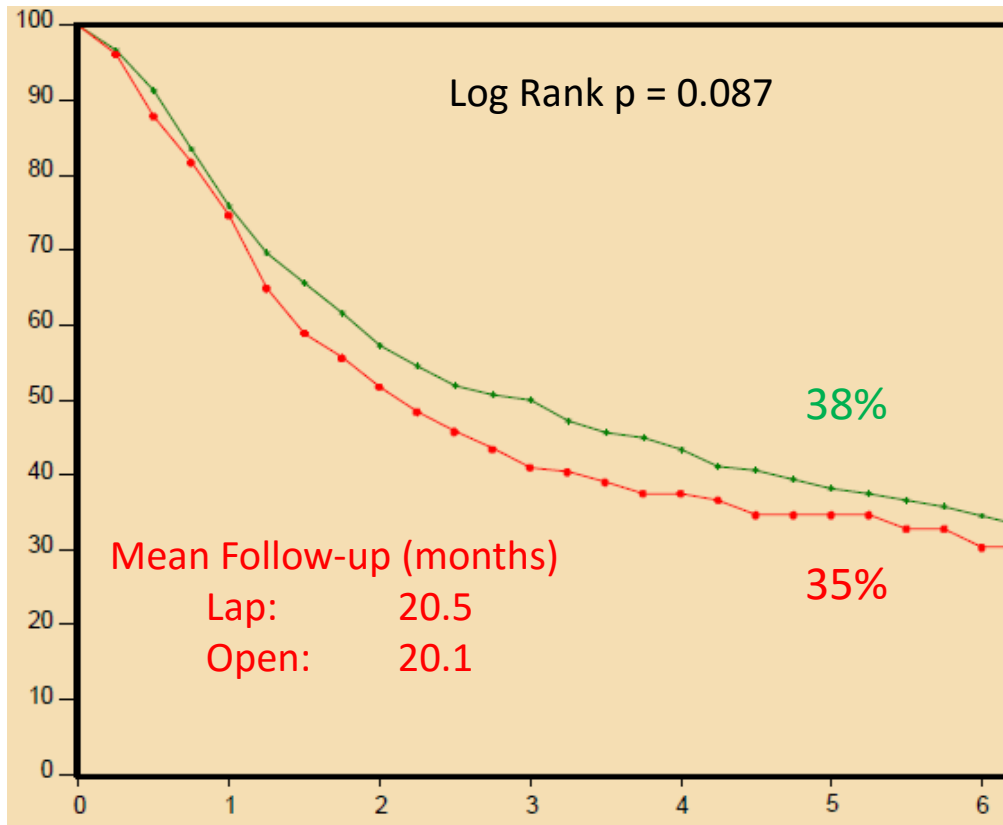
Variables	Open N = 1180	Lap N = 590	P
Extra Hepatic	167 (15)	53 (10)	<0.01
Hepatic	101 (9)	33 (6)	<0.05
Biliary leak	44 (3.7)	22 (3.7)	NS
Hemorrhage	15 (1.2)	3 (0.5)	NS
Collection	73 (6)	13 (2)	<0.05
Liver insufficiency	16 (1.3)	9 (1.5)	NS
In hospital transfusion (\pm SD)	0.2 \pm 1	0.6 \pm 7	NS
Length of stay (\pmSD)	11 \pm 8	8 \pm 7	<0.0001

Overall Survival after Matching



Total	1 yr	2 yrs	3 yrs	4 yrs	5 yrs
1176	711	470	287	175	93
588	332	211	124	66	41

Disease Free Survival after Matching



-- Open

-- Laparoscopic

Total	1 yr	2 yrs	3 yrs	4 yrs	5 yrs
1078	533	292	177	101	55
495	222	115	65	42	27

Conclusion

- This large cohort study using propensity score matching shows that laparoscopic resection of CRLM is associated with :
 - Better short term outcomes
 - Reduced morbidity
 - Reduced hospital stay
 - Identical proportion of R1 cases
 - Identical overall and disease-free survival are achieved
- Identical disease free survival suggests that concerns about overlooked lesions is not justified

Conclusion

- In patients with colorectal liver metastasis, laparoscopic resection should be preferred to open resection when both options are technically feasible and available

Thank you for your attention



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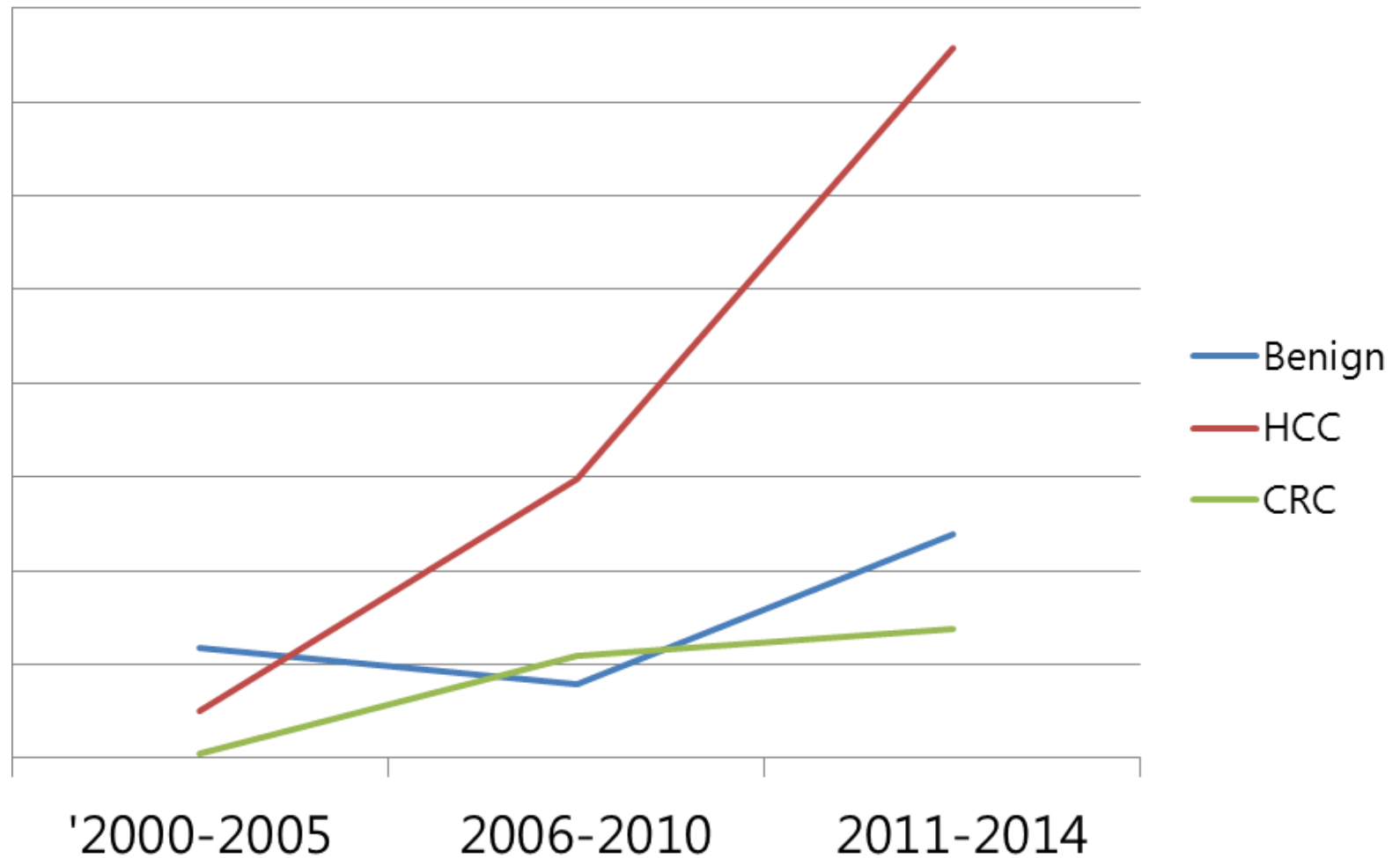
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LLR: Evolution of Indications



Han et al. Presented at the Morioka Consensus, October 2014