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MP67-05 Laroscopic radical prostatectomy using a real-time lymphangiography with transperineal injection of Indocyanine Green: results from a prospective study

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Conflict of Interest Disclosure

I have no potential conflict of interest to report



Introduction and Methods

- ePLND during RP remains the most accurate staging procedure
- However, ePLND is time-consuming and associated with an increased risk of morbidity
- sentinel LN mapping with different tracers has been proposed over the years

Patients with clinical localized PCa and a probability greater than 5% of LNI according to Briganti's nomogram
N = 226



Laparoscopic RP
ICG-guided LND
+
ePLND

Primary endpoint

Diagnostic performance of ICG-guided procedure (Acc, Se, NPV, LRn) in comparison with ePLND

Secondary endpoint

To assess the debulking capacity of a selective ICG-guided procedure in patients with low metastatic burden (≤ 2 LNMs)



Results

Table 1. Clinicopathological features of the study cohort

Variable	ICG-guided ePLND
Age (years) , median (IQR)	64.6 (59.3-69.3)
PSA (ng/ml) , median (IQR)	6.6 (5.0-9.5)
BMI , median (IQR)	27.2 (25.1-29.4)
Risk group , n. (%)	
Low	7 (3.1)
Intermediate	149 (65.9)
High	70 (31.0)
Operative time (min.) , median (IQR)	275.0 (240.0-300.0)
LN's retrieved , median (IQR)	22.0 (16.0-27.0)
ICG-stained LN's , median (IQR)	6.0 (4.0-9.0)
pN1 disease , n. (%)	58 (25.7)
Pathological Gleason score , n. (%)	
6	19 (8.4)
7	180 (79.6)
≥ 8	27 (11.9)
Locally advanced (pT3-4) , n. (%)	115 (50.9)
PSM , n. (%)	55 (24.3)

Table 2. Diagnostic efficacy of ICG-guided procedure at patient level

ICG-guided ePLND	% (95% CI)
Overall	Patients (n = 226, 100.0%)
Mets. prevalence	26.5 (20.8 - 32.9)
Accuracy	97.8 (94.8 - 99.3)
Sensitivity	91.4 (81.0 - 97.1)
NPV	97.1 (93.1 - 99.1)
LRn	8.6 (3.7 - 19.9)

5 (2.2) patients misclassified

Table 3. Diagnostic efficacy of ICG-guided procedure at node level

Overall	LN's (n = 4939, 100.0%)
Mets. prevalence	3.6 (3.1 - 4.2)
Accuracy	68.9 (67.5 - 70.2)
Sensitivity	63.4 (55.7 - 70.6)
Specificity	69.1 (67.7 - 70.4)
NPV	97.1 (97.5 - 98.5)
LRn	53.0 (43.5 - 64.6)

63 (1.3) LN's misclassified



Results and Conclusions

Table 4. Diagnostic efficacy of ICG-guided procedure in patients with low nodal burden (≤ 2 LNMs)

Patients (n = 209, 100.0%)				
	pN0	pN+		% (95% CI)
Patients with LNM in ICG LNs	0	34	Mets. prevalence	18.8 (13.8 - 24.8)
Patients without LNM in ICG LNs	168	5	Accuracy	97.6 (94.5 - 99.2)
			Sensitivity	87.2 (72.6 - 95.7)
			Specificity	100.0 (97.8 - 100.0)
			NPV	97.1 (93.4 - 99.1)
			LRn	12.8 (5.7 - 29.1)
LNs (n = 4470, 90.5%)				
	pN0	pN+		% (95% CI)
ICG LNs	1412	39	Mets. prevalence	1.1 (0.8 - 1.4)
Non-ICG LNs	3010	9	Accuracy	68.2 (66.8 - 69.6)
			Sensitivity	81.2 (67.4 - 91.1)
			Specificity	68.1 (66.7 - 69.4)
			NPV	99.7 (99.4 - 99.9)
			LRn	27.6 (15.3 - 49.7)

1. ICG correctly stage 97% of cases

2. The high NPV will allow to avoid ePLND as soon as an accurate intraoperative analysis is available

3. In patients with low LNI, ICG alone would have lost only 9 metastatic LN suggesting a possible role for selective LND in cases with limited nodal burden.