





Perfusion Assessment in Colorectal Anastomosis using FLUORESCENCE: a prospective study of diagnostic accuracy and clinical impact

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OBJECTIVE: Analyze the <u>clinical impact of fluorescence-guided surgery in colorectal anastomosis</u> and conduct a <u>study of diagnostic accuracy to quantify objectively the findings visualized by fluorescence</u>

DESIGN: Prospective cohort test accuracy study

PATIENTS: 30 unselected patients in which a colocolonic or colorectal anastomosis was performed over a period of 12 months (2015-16)

INTERVENTIONS: All patients underwent a intraoperative perfusion assessment of the anastomosis using FLUORESCENCE at the time of preparing the proximal margin (STEPI) AND then the anastomosis (STEP2) using a visual nominal scale

Table 2 Description of Operative Technique and Findings During Utilization of Fluorescence Angiography (N=30) Colorectal Cancer 20 (66.7%)

Operative technique and findings	Data	
Surgeon, n (%)	19 (63.3%)	Senior Colorectal
Laparoscopy, n (%)	19 (63.3%)	Conversion 3.3%
Ileostomy, n (%)	10 (33.3%)	10 (33.3%) TME
Operative time, mean (range), min	145 (140)	
Splenic flexure mobilization, n (%)	5 (16.7%)	
High ligation of IMA, n (%)	21 (70%)	Colorectal Cancer (n=21)
Distal seccion (1 charge), n (%)	19 (70.4%)	

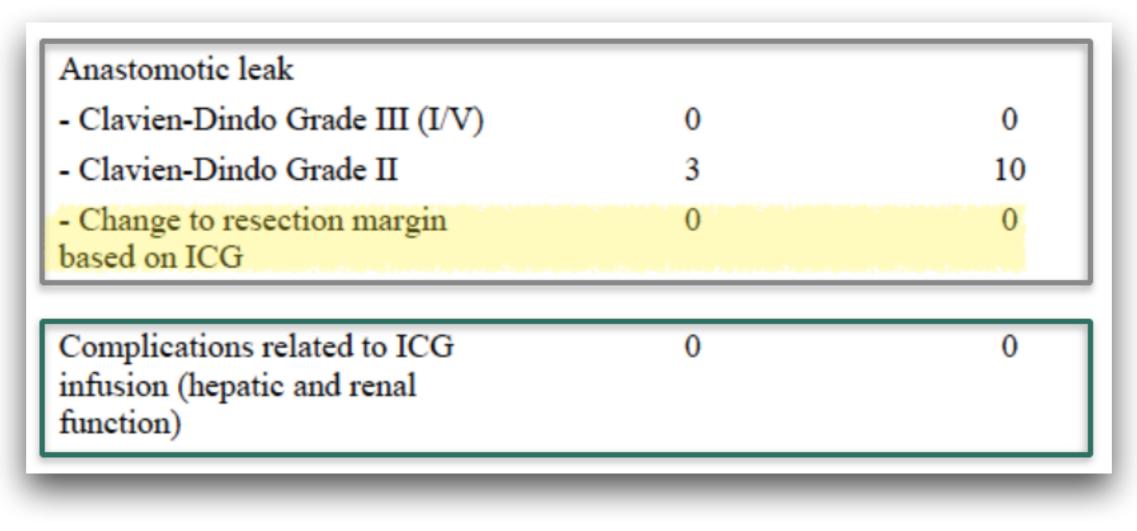
STEP 1		
Image acquired, n (%)	30 (100%)	
ICG side effects, n (%)	1 (3.3%)	Hypotension and desaturation
Maximum level of fluorescence, mean (range), sec	63.5 (7)	
Change to resection margin, n (%)	1 (3.3%)	Patched

STEP 2	
Anastomosis level	
- < 5, n (%), cm	5 (16.7%)
- 5-10, n (%), cm	6 (20%)
-> 10, n (%), cm	19 (63.3%)
Fluorescence anastomosis revision from ICG infusion, mean (range), min	20 (30)
Change in surgical plan, n (%)	0 (0%)
Satisfactory donuts, n (%)	24 (85.7%)
Negative sealing test, n (%)	29 (96.7%)
Drainage, n (%)	19 (63.3%)
Contamination, n (%)	1 (3.3%)
Blood loss, mean (range), cc	50 (180)
TME, total mesorectal excision: N	fin minutes: IMA inferior mesenteri

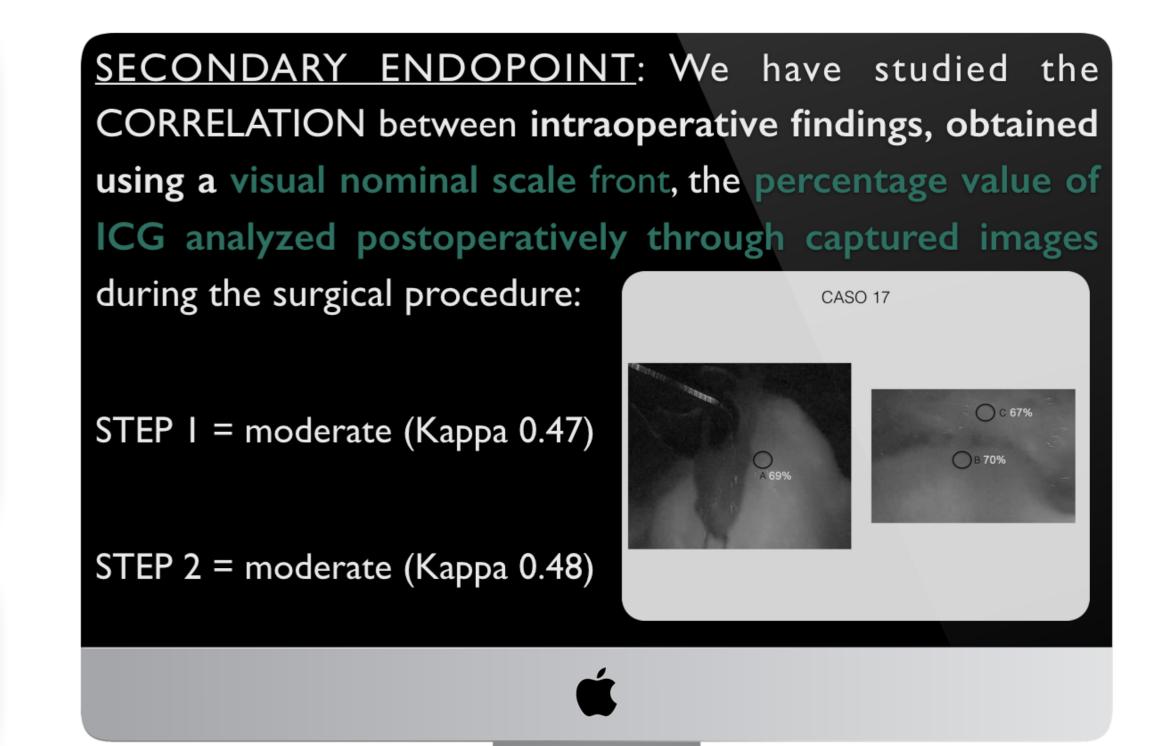
TME, total mesorectal excision; Min, minutes; IMA, inferior mesenteric artery; ICG, incocyanine green; Sec, seconds; Cm, centimeters; Cc, cubic centimeters.

STEP 1: Perfusion Assessment of the PROXIMAL Margin ICG Infusion 0.4 mg/Kg **WATCH OUR** son Espases Colorrectal **TECHNIQUE** IN YouTube 3 minutes **PATCHED** ISOFLUORESCENCE HYPOFLUORESCENCE **ABSENT** NO Change in Surgical Plan? www.cgdsonespases.es

MAIN OUTCOME MEASURES: We have analyzed the impact of fluorescence in making surgical decisions at the time of colorectal anastomosis and their clinical impact on postoperative outcomes



Hospital stay, days, mean (range)	6 (17)
- < 7 days, n (%)	22 (73.3%)



Fluorescence guided surgery is a SAFE and REPRODUCIBLY tool with MINIMAL added complexity that could have an IMPACT on SURGICAL STRATEGY and CLINICAL RESULTS in colorectal anastomosis. The visual scale used intraoperatively for this purpose moderately correlated with quantitative fluorescence data postoperatively obtained through a computer analysis





