INDOCYANINE GREEN CLEARANCE RATE AS A PREDICTIVE FACTOR OF COMPLICATIONS FOLLOWING MAJOR LIVER RESECTION

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GOAL OF STUDY

- Indocyanine green elimination by pulse spectrophotometry is a non-invasive liver function monitoring system.
- The aim of this study is to assess the relationship between postoperative ICG plasma disappearance rate (ICG PDR % min) and the onset of medical and surgical complications.

MATERIALS AND METHODS

- 33 patients scheduled for mayor liver resection were selected. ICG PDR was measured preoperatively and on the day 1 and 2 postoperative. We recorded the appearance of surgical complications postoperatively (liver ischemia, biliary leak and intra-abdominal fluid collections and medical complications (pneumonia, ascites, pleural effusion, infection, coagulopathy and thrombosis) All the patients were included after signing an Informed Consent

RESULTS

- 7 patients underwent surgical complications and 14 medical ones. When analyzing the surgical complications, PDR the first day was mayor in the group that did not develop any events $18,4 \pm 6$ against $11,3 \pm 7$ in the group with surgical issues (p ng medical events, first day PDR was 19 ± 6 in the patients with no issues versus 13 ± 5 in the group that had any medical complication. Moreover, our results show a significative association between PDR measurement taken on postoperative day 1 and hospital stay ($r = -0,46$ $p=0,01$) and ICU stay ($r=-0,37$ $p= 0,03$). No significative association was found between routine laboratory tests and adverse events occurrence.

	Complicaciones quirúrgicas SI	Complicaciones quirúrgicas NO	significacion
PDR basal mediana	18,7 IQR 14,8-19,8	22,3 IQR 19,9-25,9	0,01 no Parametrica
PDR 1er día	11±5	18±6	0,014
Coloides	0 ± 0	200 ± 237	0,04 no parametrica
Extem ML preq	0,33 ± 0,8	4,21 ± 3,4	0,000
Extem ang alfa preq	79 ± 2	71 ± 11	0,005
Intem ML preq	0,5 ± 1,2	3,1 ± 3,2	0,009
Hb 1er día	9,4 ± 0,8	10,7 ± 1,4	0,01
Extem ML 1er día	0,43 ± 1,1	2,9 ± 3,7	0,049 no parametrica
Intem MCF 1er día	68 ± 6	60 ± 8	0,045

CONCLUSIONS

- ICG PDR is a useful, non-invasive liver function test in patients undergoing major liver resection. It may help to predict both medical and surgical complications in these patients, improving their management and therefore, their outcome.