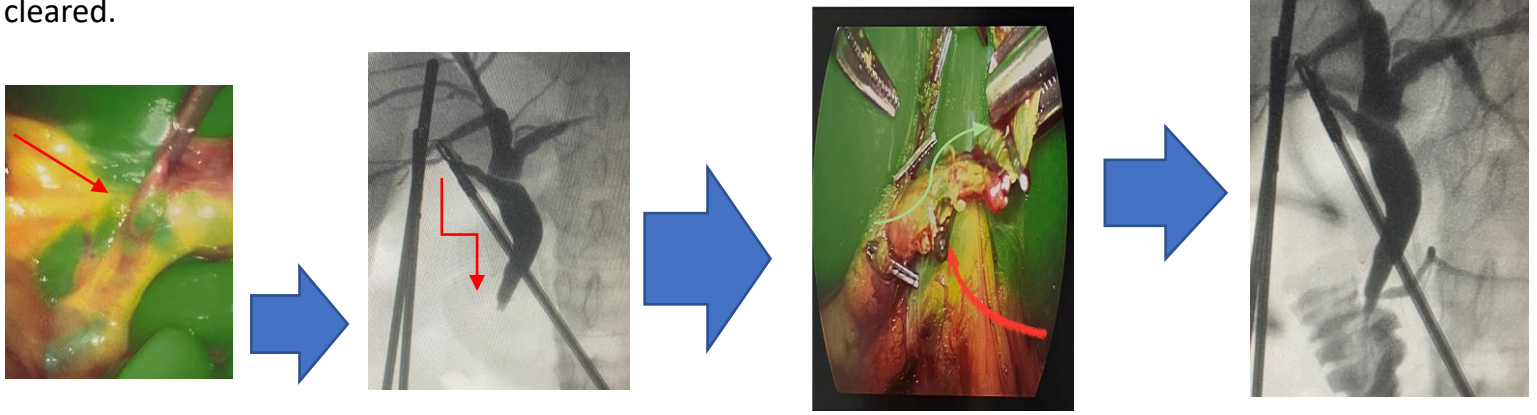
ROLE OF ICG TECHNOLOGY TO END THE PRACTICE CONTROVERSY OF ROUTINE INTRA-OPERATIVE CHOLANGIOGRAPHY WITH CHOLECYSTECTOMY

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OBJECTIVE: Fluorescent cholangiography during laparoscopic cholecystectomy (LC) by intravenous injection of Indocyanine Green (ICG) helps visualize the biliary tree during LC. And unlike traditional Intraoperative Cholangiography (IOC), this approach is less invasive. *On the other hand*, proponents for the practice of routine IOC would argue that in addition to just helping *delineate* anatomy, occult biliary obstruction (seen in up to 25% of all cases) can also, not just be identified, but also addressed and *corrected* during surgery.

DESCRIPTION: Intravenous ICG is administered and uptake into the gallbladder and biliary tree is typically seen. If there are any Cystic duct (CD) filling defects identified, then a traditional IOC is performed, and any CD stones identified are cleared.



RESULTS: ICG contrast will not fill into the gallbladder, nor most of the distal CD, if there is a filling defect secondary to a cystic duct stone. IOC is then used to confirm the cystic duct obstruction, and the CD stones are subsequently milked out from the cystic ductotomy or flushed through until cleared. Additionally, administration of intravenous glucagon, followed by forced saline flushes, can be performed in succession until the biliary tree is cleared. ICG uptake into the gallbladder, as well as opacification of the hepatobiliary tree can then be appreciated on completion IOC (*see figures*)

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FUTURE DIRECTION: *At least one historical argument advocating for routine IOC has been to identify and clear occult CD stones. We describe a less invasive practice by which to identify occult CD stones using ICG technology, and thus eliminating the need for the practice of routine IOC.*