Liposomal Indocyanine Green (ICG) Formulation for Intra Operative Imaging

PI's:
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The need: Identification of critical anatomic and pathologic structures in real time, during minimal invasive procedures.

The Invention:

A new modality- ***Liposomal Indocyanine green (ICG)***, this product enables a real-time, non-invasive, radiation-free method, based on Near-Infrared (NIR) technology to visualize designated structures such as ureters, rectal tumor margins, and missed polyps.

Advantages:

- ICG is the only FDA and EMA approved NIR dye with excellent safety profile (>30yrs).
- The ICG provides more than one hour of illumination in a single dose.
- Near Infrared technology already integrated into robotic and advance laparoscopic systems - a benchmarked imaging system.

The Product Applications:

The ICG is packed in liposomes with variables diameters; this enables marking of different organs so ICG can contribute in a verity of surgical procedures.

1. ***Ureteral indicator-*** in order to prevent iatrogenic ureteral injuries which are a serious complication of 10% of abdominal surgeries. The average cost of ureter repair is extremely high, $50,000 per ureteral injury.
2. ***Rectal tumor indicator-*** in rectal resection procedure, our technology assists to localize and determine the resection borders of the tumors, thus allowing better results in complete tumor removal & preservation of sphincter function.
3. ***Masses indicator-*** in a Colonoscopic detection- today the missing rate of masses is 20% using traditional visualization. Our technology might enable detection of currently overlooked masses significantly reducing missing rate.

Status & Achievements:

Patent Status: Patent's pending
Development Stage:

- ***Ureteral indicator-*** Proof of concept study in mice model and Proof of concept study in porcine model in a real OR- set-up with a benchmarked imaging system.
- ***Rectal tumor indicator-*** Proof of concept study in mice model in vivo.

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