INDOCYANINE GREEN (ICG) FLUORESCENCE IN SURGERY EMERGING METHOD

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The use of indocyanine green as a fluorescent dye in medicine has been gaining in popularity during the past decade due to a myriad of applications in the surgical field. Within seconds after injecting ICG into the blood stream, by overlapping conventional with near infrared imaging, the surgeon uses augmented reality to get information about the very substance of the tissues such as: precise location of tubular structures which would normally be inaccessible to the naked eye CBD (common bile duct), delineation of surgical resection margins, precise assessment of invasion, accurate location of metastatic deposits, quality of blood supply , preoperative staging(CT-ICG), and the position sentinel lymph nodes.

ICG is a non-toxic fluorescent dye which could be tagged with specific antibodies in order to provide an excellent tool for neoplastic tissues mapping.

The presentation offers a review of the clinical applications of the technology and explores new directions of research in order to expand its applications and improve its sensitivity.

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