Could fluorescence-guided surgery be an efficient and sustainable option?

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S.I.C.E. 2020 HTA* report[1]

Fluorescence-guided surgery (FGS)

FGS

- *"allows for a more precise guide of the operator with better results during surgery."*
- has significant advantages in the optimization of the patients' surgical pathway, especially in terms of better management of adverse events and the reduction of re-interventions.
- has a positive impact on the post-intervention recovery time, on the length of hospitalization and on the postoperative phase compared with white light imaging surgery.

When using Indocyanine Green (ICG) in FGS compared with standard vision surgery the potential economic benefit of the average total cost per patient amounts to 12.82%.

This scientific paper encourages surgeons to use ICG whenever available according to the clinical needs, leading to a better vision during surgery.

85% of the respondents believe, that FGS has the potential to become a standard vision technology in the near future.

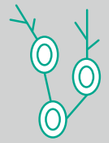
Clinical applications of ICG in surgery

Colorectal surgery

ICG significantly reduced the number of leakages (anastomotic re-do surgery by 17%). In colorectal surgery stronger evidence supports a benefit in the use of ICG with a significant reduction of complications, which could be translated into an optimization of hospitalization time (-33.77% in colorectal surgery).

Lymph node mapping

For example, in gynaecology, a significant superiority of ICG compared to the radioactive tracer TC99 in bilateral lymph node mapping has been reported. ICG was significantly superior to the blue dye in lymph node mapping.



Cholecystectomy

Especially in acute settings FGS can help in identifying extra hepatic biliary structures faster and more frequently when compared to white light imaging. It can help in the recognition of anatomical variants, reducing the risk of bile duct lesions and can be considered a safe and sustainable technique.

Esophageal surgery

The use of ICG to evaluate the vascularization of the anastomosed gastric tube demonstrates a significant reduction in anastomotic fistulas.

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1 Vettoretto N et al. Could fluorescence-guided surgery be an efficient and sustainable option? A SICE (Italian Society of Endoscopic Surgery) health technology assessment summary. Surgical Endoscopy , April, 2020. DOI: 10.1007/s00464-020-07542-3
This report shows the most outstanding results from a health technology assessment study design, conducted on fluorescence-guided compared with standard vision surgery.

* HTA = Health Technology Assessment

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