

Meta-analysis of Sentinel Node Mapping Techniques Comparing Near Infrared Fluorescence Imaging to Blue Dye and Radioisotope

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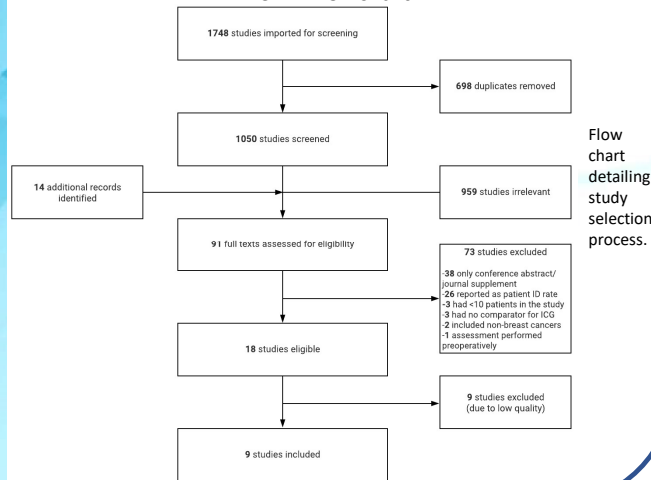
Introduction:

- Sentinel lymph node biopsy (SLNB) is standard treatment in breast cancer surgery, used to assess tumour metastasis.
- Current gold standard for SLNB is radioisotope (RI) and blue dye (BD) injected peritumourally. Risks of anaphylaxis, skin staining, & radiation.
- Fluorescence Imaging with Indocyanine Green (ICG) is safe and effective alternative

Methodology:

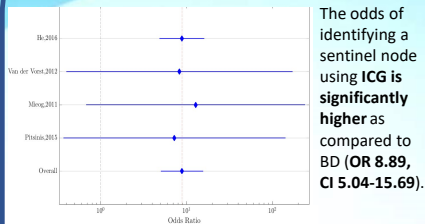
- PROSPERO ID: CRD42019129224
- Medline, Embase, Scopus, and Web of Science were searched
- MESH terms: 'Surgery' AND 'Lymph node' AND 'Near infrared fluorescence' AND 'Indocyanine green'
- Articles containing raw data on sentinel node identification rate included

PRISMA flowchart

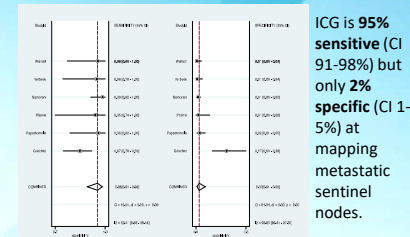


Results:

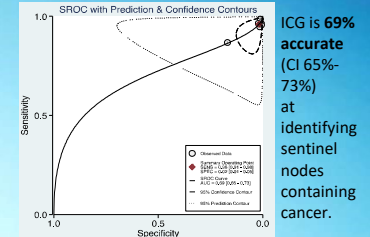
Odds Ratio of ICG vs BD



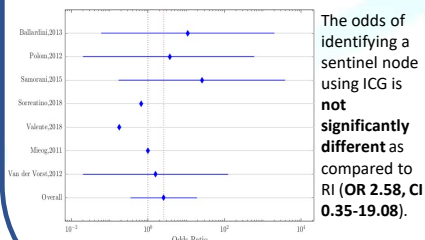
Sensitivity and Specificity of ICG



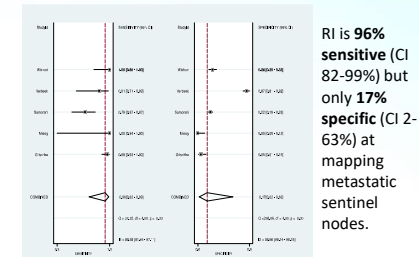
Accuracy of ICG



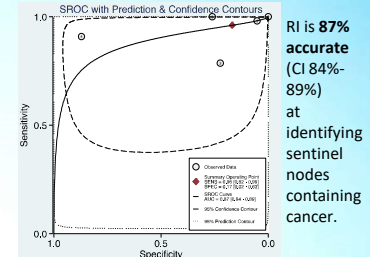
Odds Ratio of ICG vs RI



Sensitivity and Specificity of RI



Accuracy of RI



Conclusions:

- ICG is significantly better at identifying sentinel nodes than BD, and equivalent to RI
- Both ICG and RI are very sensitive but neither is specific at demonstrating which nodes contain metastasis
- RI is slightly more accurate than ICG in identifying which sentinel nodes have cancer, but as SLNB is not a cancer guiding technology the significance of this is unknown
- ICG is a safe and good alternative to using RI +/- BD in SLNB in breast cancer surgery

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