

Next Generation intraoperative Lymph node staging for Stratified colon cancer surgery (GLiSten): a multicentre, multinational feasibility study of fluorescence in predicting lymph node-positive disease

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Plain English summary

GLiSten

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Plain English summary

Bowel cancer spreads along channels, called lymphatics, with cells becoming trapped in special glands, called lymph nodes (LNs). In surgery for bowel cancer it is necessary to remove the whole tumour with the lymphatics and LNs. To guide the extent of surgery, it is important to know whether or not spread to the LNs has happened. 5-aminolevulinic acid (5-ALA) is a drug that can make cancers fluoresce (glow). It has been used to guide surgery in other cancers, particularly brain cancer, but has not been used in bowel cancer. It is hoped that giving 5-ALA to patients with bowel cancer will make the cancers and cancer-containing LNs glow when viewed by a special blue-light camera and, thus, act as a guide to surgery.

Patients felt to have a high chance of cancer-containing LNs on computerised tomography were chosen. 5-ALA was given before surgery and cancer fluorescence was tested using a special blue-light keyhole camera. The presence of cancer within fluorescent LNs was confirmed by microscope testing.

Group 1 ($n = 18$ patients) received 20 mg/kg of 5-ALA. Six patients had fluorescent cancers and three patients had fluorescent LNs; only one patient had fluorescent LNs containing cancer. Group 2 ($n = 26$ patients) received 30 mg/kg. Eight patients had fluorescent cancers and four patients had fluorescent LNs; but none of the fluorescent LNs contained cancer. There were no major 5-ALA side effects.

It can be concluded that 5-ALA is safe, but does not allow cancer-containing LNs to be detected with enough accuracy to be useful in guiding bowel cancer surgery.

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