Carbon may spot primary and lymphatic colorectal cancer spread

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We congratulate Meijerink et al. [1] for their editorial that highlights the potential of sentinel lymph node harvest in colorectal cancer, about which most colorectal surgeons are currently relatively ignorant.

We have noticed that methylene blue is suboptimal for marking colonic primaries as it is short-lived and appears similar to venous architecture. Rather than marking bowel tumours with a permanent mark, it has been suggested that intraoperative endoscopy may be more reliable in identifying such lesions [2]. However, the necessary colonic insufflation inhibits laparoscopic visualisation and this technique would not mark the lymphatics for the surgeon or the pathologist.

Although India ink lasts longer in the tissues than methylene blue or indocyanine green [3], it may not be histologically as simple to detect as the FDA-approved carbon compound SPOT (GI Supply, Camp Hill, PA, USA). Our use of this carbon dye has improved the localisation of the primary and we also have demonstrated mesenteric lymphatic drainage laparoscopically (Fig. 1). The histological appearance of carbon has been shown to identify sentinel nodes most likely to contain tumours, at least for melanoma [4].

An ideal solution would be one that identifies the primary tumour to enable resection but also allows both visual and histological identification of lymphatic drainage. We suggest that sterile SPOT injected submucosally may achieve these three goals. However, it should be remembered that the endoscopic injection of any such visualisation substance must be clear of the primary tumour to avoid

Fig. 1 Inferior mesenteric artery lymph nodes 3 weeks after colonoscopic injection of 8 ml SPOT carbon dye above and below a small sigmoid colorectal cancer

transmural injection of tumor cells and not too deep to reduce the chance of transferring infection intraperitoneally.

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