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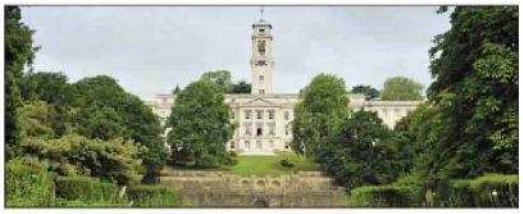
Submission



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Abstract Submission Details

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Title

CT assessment of right colonic arterial anatomy before and after colon cancer resection - a potential marker for quality and extent of surgery?

Abstract Text

Purpose of the study: The benefit of high ligation in surgery for right colon cancer has been the subject of much debate, with conflicting evidence as to the optimum extent of resection. The radicality of surgery is currently graded by pathologists based on analysis of the resected specimen. It is unknown whether computed tomography (CT) analysis of residual arterial stump length after surgery could be used as an alternative in vivo marker to determine the extent of mesenteric resection. Ileocolic artery stumps have been demonstrated previously on CT after right hemicolectomy, but only in the early postoperative period. Methods: We undertook a retrospective analysis of the routine pre-operative staging and post-operative follow-up CT scans for 151 patients who had undergone surgery for right-sided colon cancer. The preoperative right colonic arterial anatomy and the postoperative arterial stumps were analyzed and measured. Summary of results: Preoperatively, identification of the ileocolic (98.8%), middle colic (94.7%), and right colic arteries (23.8%) was comparable to catheter angiogram studies. Postoperative ileocolic stumps were consistently identified (88.3%) many months (average, 2 years and 42 days) after surgical resection, and were significantly longer than expected for a standard D2 resection (mean 28.1 mm, range 2.5 to 74.3 mm). Mean arterial stump length was significantly longer than anticipated stump length ($p<0.001$). Conclusions: This is the first study to successfully demonstrate ileocolic arterial stumps using routine portal venous CT many months after right colon cancer resection. Further prospective studies should assess whether arterial stumps can be used as an in vivo marker of surgical quality and radicality. Acknowledgements: NW is supported by a Pathsoc Career Development Fellowship.