

D3 Lymphadenectomy for Right Colon Cancer: Feasibility, Safety, and Early Outcomes from a District General Hospital in London

Valentin Butnari¹, Timothy Jones¹, Ahmer Mansuri¹, Maitreyi Patel¹, Victor Kung¹, Saswata Banerjee¹, Nirooshun Rajendran^{1,2}, Joseph Huang¹, Richard Boulton¹ and Sandeep Kaul¹
¹Barking, Havering and Redbridge University NHS Trust, London, United Kingdom
²Blizard Institute, Barts and the London School of Medicine & Dentistry Queen Mary, University of London, London, United Kingdom

Abstract

Background and Objectives: Observational studies suggest a link between D3 lymphadenectomy and improved disease-free survival in some colon cancer patients. However, high-quality randomized controlled trials are needed to confirm its advantage over D2 lymphadenectomy. Concerns about potential complications with D3 have limited its use outside of Japan. This study examines short-term outcomes following D3 lymphadenectomy for right-sided colon cancer compared to the established D2 procedure.

Materials and Methods: This retrospective cohort single center study analyzed data on patients with right-sided colon cancer who underwent curative surgery within our healthcare trust between January 2019 and November 2022. Only patients treated by surgeons who routinely perform D3 lymphadenectomy were included for a homogenous study population. The decision to perform D3 was at the discretion of the operating surgeon. Data were collected from both paper charts and electronic medical records. Non-parametric statistical tests were used for data analysis.

Results: A total of 214 patients met the criteria, with 170 undergoing D2 lymphadenectomy and 44 undergoing D3 lymphadenectomy. There were no significant differences between the groups in terms of surgery duration, blood loss, postoperative hemoglobin levels, or transfusion needs. Interestingly, the D3 group had a lower complication rate (25%) compared to the D2 group (41.2%). However, the D3 group also had a higher rate of lymph node spread (45.5% vs. 30.6% for D2) and more lymph nodes removed (19 [16, 25] vs. 23 [18, 28]). Importantly, both groups achieved similar complete tumour removal rates.

Conclusions: This study suggests D3 lymphadenectomy for right-sided colon cancer might be safe with potential benefits, especially for younger patients with suspected lymph node involvement. However, the limited sample size necessitates larger, randomized trials to confirm these findings and potentially establish D3 lymphadenectomy as standard care.

Key words: complete mesocolic excision, D3 lymphadenectomy, right-sided colon cancer