

Impact of Index Colon Cancer Surgery at a High-Volume Tertiary Cancer Center versus Low-Volume Center on Oncological Outcomes: A Retrospective Cohort Study

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Background

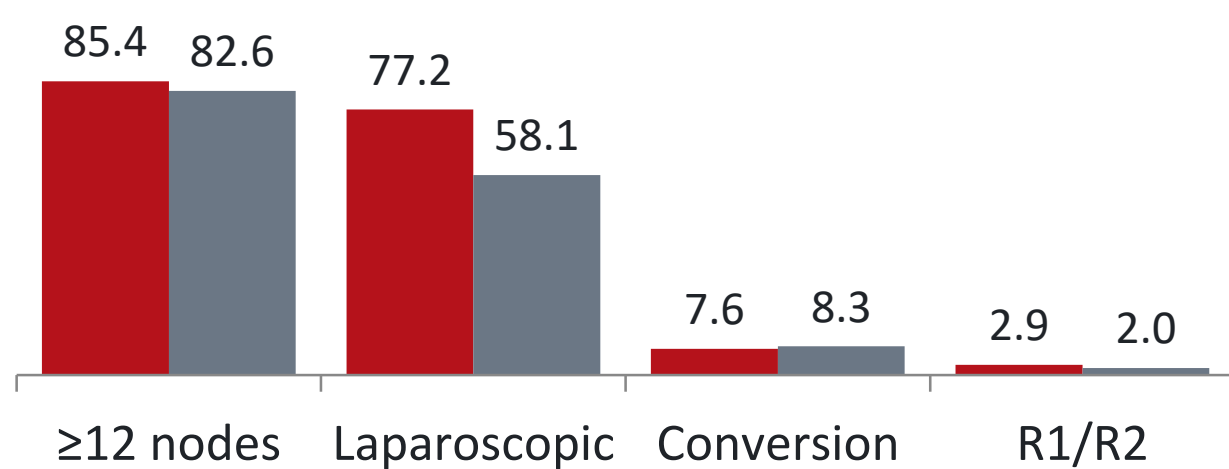
Surgical quality at the index operation shapes later oncological care [1,2]. Many patients are operated on elsewhere and then referred to SKMCH; outcomes of these two pathways are poorly characterised.

Methods

- Retrospective cohort, SKMCH, 2021–2026
- Curative-intent colon cancer surgery; post-op care at SKMCH
- Endpoints: 5-yr DFS & OS, nodal yield, margins

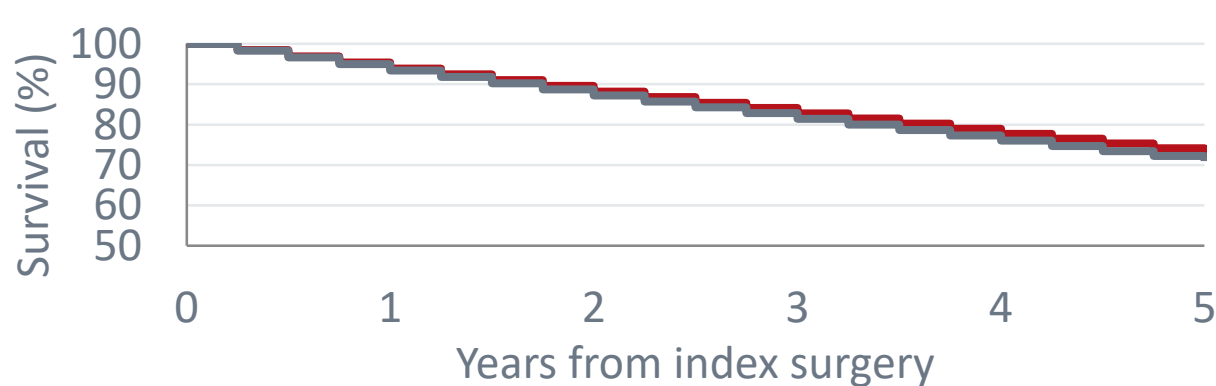
Results

Surgical & pathological quality (%)

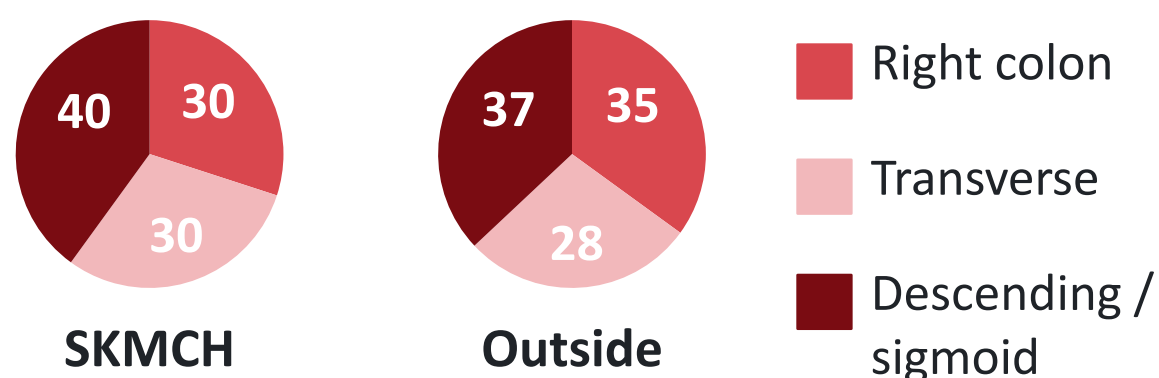


Disease-free survival (Kaplan–Meier)

5-yr DFS: SKMCH 73% vs outside 71%



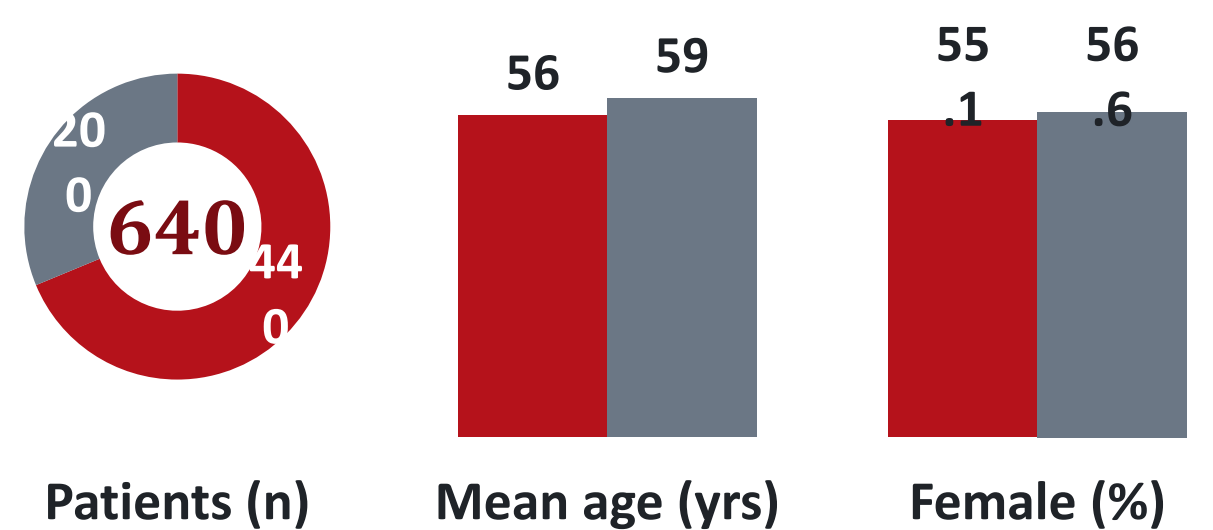
Tumour site (%)



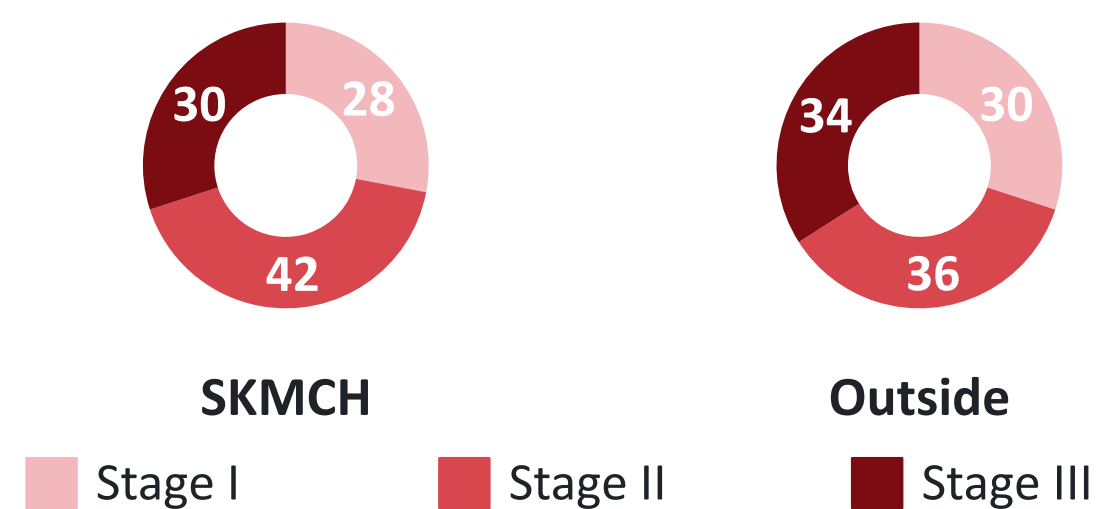
Discussion

In line with volume–outcome evidence [1,2], SKMCH surgery gave a higher nodal yield (mean 18 vs 15), more adequate harvests and more laparoscopy. Survival gains were modest, possibly as all then received multidisciplinary care at SKMCH [3,4]. Limitation: single-centre retrospective design.

Patient characteristics

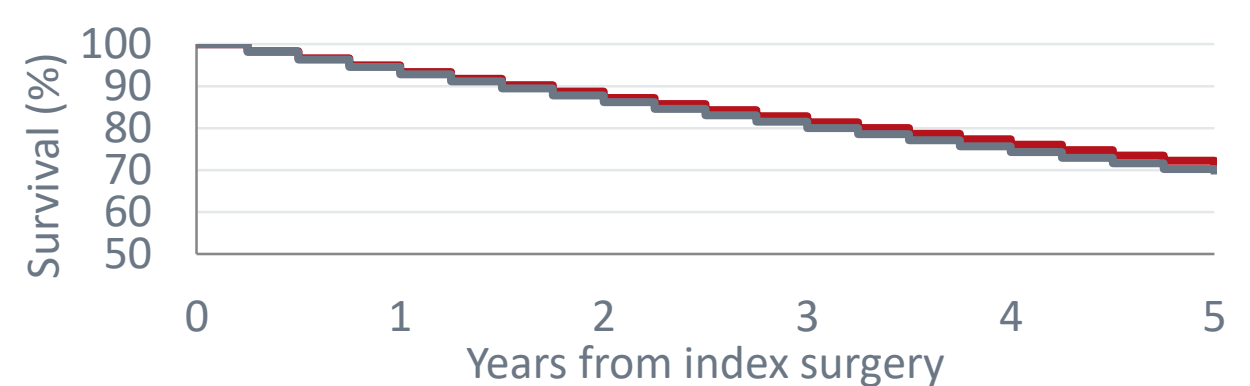


Pathological stage distribution (%)



Overall survival (Kaplan–Meier)

5-yr OS: SKMCH 71% vs outside 69%



Odds ratios, outside vs SKMCH surgery

Outcome	OR (95% CI)	p-value
≥12 nodes harvested	0.68 (0.56–0.85)	< 0.001
R1/R2 resection	0.65 (0.40–1.06)	NS

References

- Ho J, et al. BJS Open. 2026;10(3):zrag074.
- Williams NS, et al. J Surg Oncol. 2021.
- Kočo L, et al. Cancers (Basel). 2021;13(16):4159.
- Peng D, et al. BioMed Res Int. 2021;2021:5541613.
- Bray F, et al. CA Cancer J Clin. 2024;74(3):229–63.

Conclusion Index surgery at SKMCH achieved better pathological quality, with 5-yr DFS 73% vs 71% and OS 71% vs 69% compared with outside surgery.