

Age-related differences in colorectal cancer (CRC) presentation, treatment and relapse

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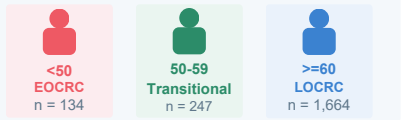
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KEY MESSAGE

Younger patients had higher-risk disease and received substantially more chemotherapy. Age alone does not independently predict relapse.

After adjustment, age group was not independently associated with RFS; LVI (Stages II, III) and rectal location (Stages I, II) were independently associated with poorer RFS.



1 BACKGROUND & OBJECTIVE

Background

Early-onset colorectal cancer is increasing, but most age-based studies dichotomise at 50 years, potentially obscuring the profile of patients aged 50-59 years.

Objective

Determine whether age-related differences in presentation and treatment translate into stage-specific relapse-free survival.

Single-centre retrospective cohort

Cabrini Health | Diagnosed 2010-2022
Primary inferential focus: stage-specific RFS

2 METHODS

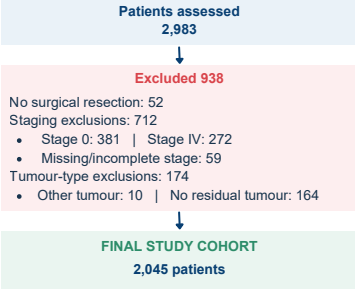
- Retrospective study using the prospectively maintained Cabrini Monash Colorectal Neoplasia Database.
- Stage I-III colorectal adenocarcinoma diagnosed 2010-2022; age groups <50, 50-59 and >=60 years.
- RFS: diagnosis to confirmed recurrence, distant metastasis or later distinct second-primary CRC.
- Stage-specific Kaplan-Meier estimates and Cox models adjusted for age group, sex, tumour location and LVI.
- Age-by-stage interaction assessed for the primary RFS endpoint.

ANALYSIS POPULATIONS

Full cohort	2,045
Primary RFS	1,995
Treatment subanalysis	1,117
Stage III RFS model	667

Non-HREC: RES-24-0000-929A

3 COHORT SELECTION



4 AGE-RELATED PATTERNS ACROSS THREE GROUPS

Younger patients had a higher-risk presentation and received substantially more chemotherapy; the 50-59-year group was intermediate across several, but not all, features.

	<50 years n = 134	50-59 years n = 247	>=60 years n = 1,664	Global p*
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A HIGHER-RISK PRESENTATION

Rectal primary	47.0%	38.9%	25.7%	<0.001
Stage III disease	50.0%	38.1%	31.7%	<0.001
N2 disease	19.4%	8.9%	9.0%	<0.001
Lymphovascular invasion	48.5%	33.6%	35.8%	0.007

B MORE INTENSIVE TREATMENT

Stage III chemotherapy received	92.5%	90.4%	67.4%	<0.001
High-risk Stage II chemotherapy received	63.2%	37.5%	10.9%	<0.001
Combination FOLFOX/CAPOX*	77.0%	66.0%	53.4%	<0.001
Neoadjuvant therapy received †	64.7%	52.4%	41.2%	0.027

C STAGE-SPECIFIC RFS

STAGE I	log-rank p = 0.025	STAGE II	log-rank p = 0.270	STAGE III	log-rank p = 0.792
Adjusted age-group contrasts: not significant		Adjusted age-group contrasts: not significant		Adjusted age-group contrasts: not significant	

Age-by-stage interaction: p = 0.128 | After adjustment, age group was not independently associated with RFS in Stage I, II or III.

AT A GLANCE

01

Higher-risk presentation

Patients <50 were more likely to have rectal primaries, Stage III/N2 disease and LVI.

02

More chemotherapy

Stage III: 92.5% / 90.4% / 67.4%
High-risk Stage II: 63.2% / 37.5% / 10.9%

03

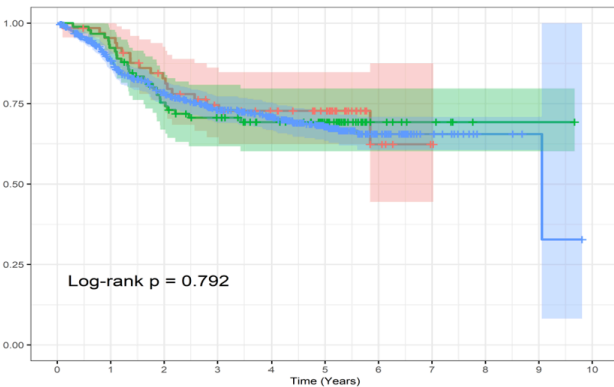
Age not independently predictive for relapse

After stage-specific adjustment, age group was not associated with RFS. LVI (Stages II, III), rectal location (Stages I, II), and left-sided colon (Stage III, protective) were

†Rectal patients (n = 270). Section B: high-risk Stage II/III sub analysis (n = 1,117). ‡Global p is across all categories of each variable (e.g. tumour location, stage, N stage, regimen).

5 STAGE III RELAPSE-FREE SURVIVAL

Stage III RFS was similar across age groups.



Stage III RFS cohort
n = 667 | events = 188
Log-rank p = 0.792

Adjusted HR vs >=60 years

<50 years	0.906 (0.552-1.487) p = 0.696
50-59 years	1.021 (0.674-1.545) p = 0.924

Across all stages

Stage I unadjusted: p = 0.025
Stage II unadjusted: p = 0.270
Stage III unadjusted: p = 0.792

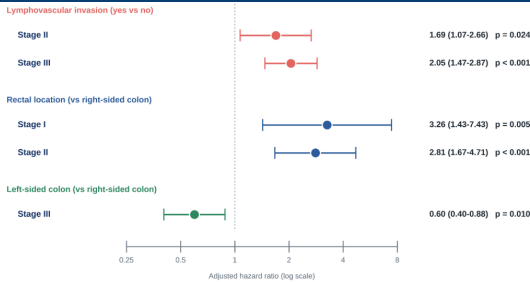
Age x stage interaction: p = 0.128

After stage-specific adjustment

No independent age-group effect on RFS.

Primary RFS analysis excludes patients without adequate post-diagnosis follow-up

6 WHAT PREDICTED POORER RFS?



7 CONCLUSION & CLINICAL MESSAGE

Younger patients presented with higher-risk disease and received substantially more chemotherapy.

After stage-specific adjustment, age group was not independently associated with relapse-free survival.

Patients aged 50-59 showed an intermediate profile across several features, supporting an age spectrum rather than a simple early-versus late-onset dichotomy.

Clinical message

Tumour characteristics - not chronological age alone better informs relapse-risk

Strength: large real-world cohort with stage-specific adjusted analyses.
Caution: retrospective, single-centre observational design.