

# Clinicopathological features and oncological outcomes of patients with early age onset rectal cancer

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**Background:** Although the overall incidence of colorectal cancer has decreased due to the implementation of population-based screening, there has been an alarming increase in incidence of rectal cancer among young adults under the age of 50 years. The reasons for this disproportionate increase are unknown. It is possible that early age onset rectal cancer represents a unique disease process with an incompletely understood distinct biomolecular profile. In a curious paradox, younger patients typically present with more advanced disease and worse histopathological features than older counterparts yet have comparable short- and long-term survival.

**Aim:** To compare disease-specific outcomes of patients diagnosed with rectal cancer aged younger than 50 years to those aged 50 and greater.

**Methods:** A prospectively registered consecutive series of patients with histologically confirmed rectal cancer undergoing surgery with curative intent at St Vincent's University Hospital, Dublin, between 2006 and 2016 were retrospectively studied. Baseline demographic, clinical, staging, treatment, histopathologic and survival data were identified.

## Results

Figure 1. Patient Cohort

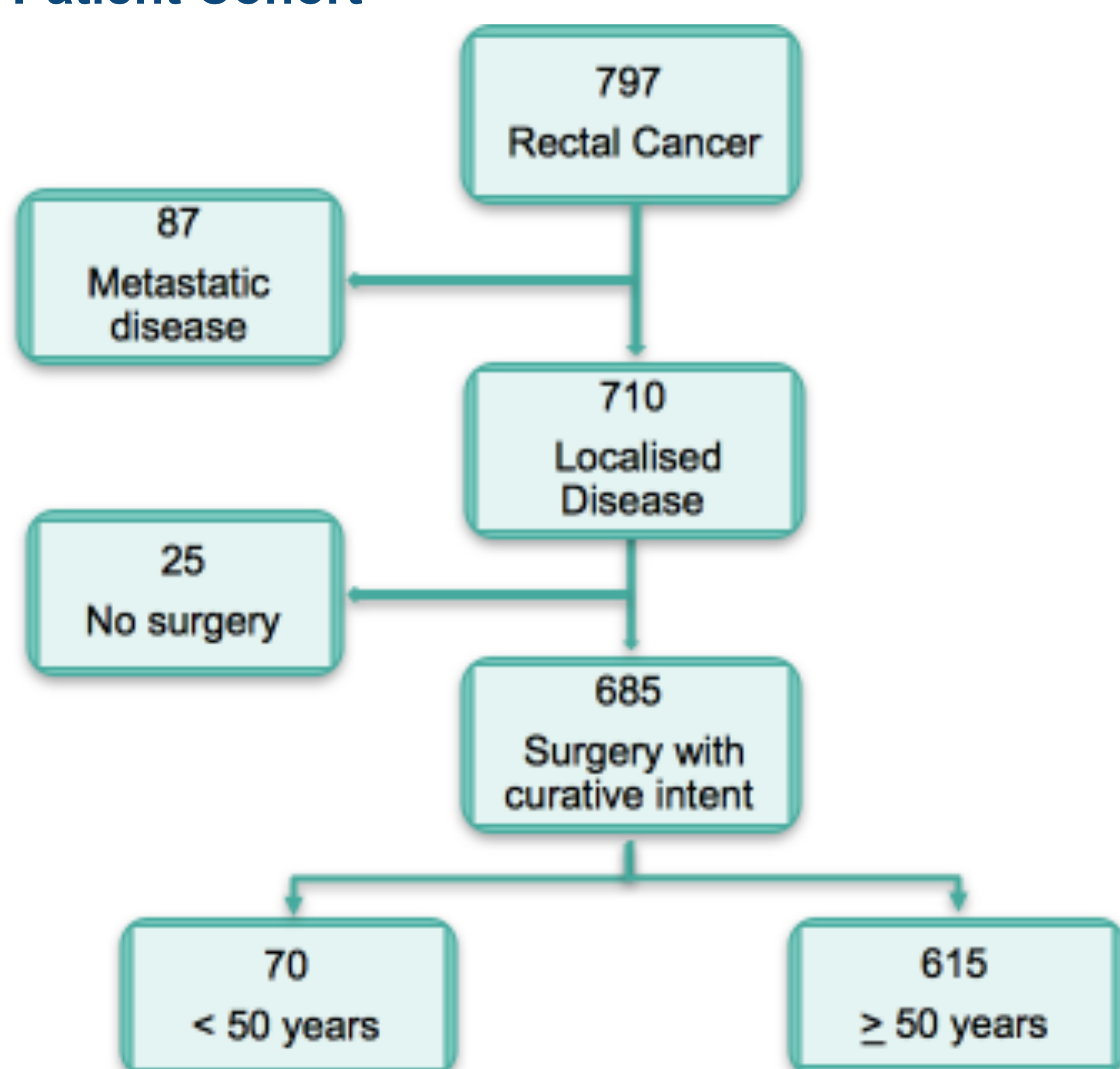


Table 1. Demographics and clinicopathological comparison of age groups

	<50 years N = 70	≥50 years N = 615	P value
<b>Male n (%)</b>	40 (57)	393 (64)	0.295
<b>cTNM stage</b>			
I/II	23 (33)	218 (35)	0.298
III	47 (67)	324 (53)	0.302
Unknown	0 (0)	73 (12)	
<b>Neoadjuvant CRT</b>	47 (67)	328 (53)	<b>0.031</b>
<b>(y)pTNM stage</b>		172 (28)	
I	14 (20)	172 (28)	0.201
II	18 (26)	157 (25)	1.000
III	31 (44)	221 (36)	0.239
<b>Pathology</b>			
pCR	7 (10)	62 (19)	0.687
R0 resection	67 (96)	585 (95)	1.000
<b>MMR status</b>			
MMRd	6 (9)	10 (2)	<b>0.003</b>
Lynch Syndrome	5 (7)	0 (0)	<b>&lt;.001</b>
<b>Adjuvant CT</b>	29 (41)	149 (24)	<b>0.006</b>

Figure 2. Overall Survival

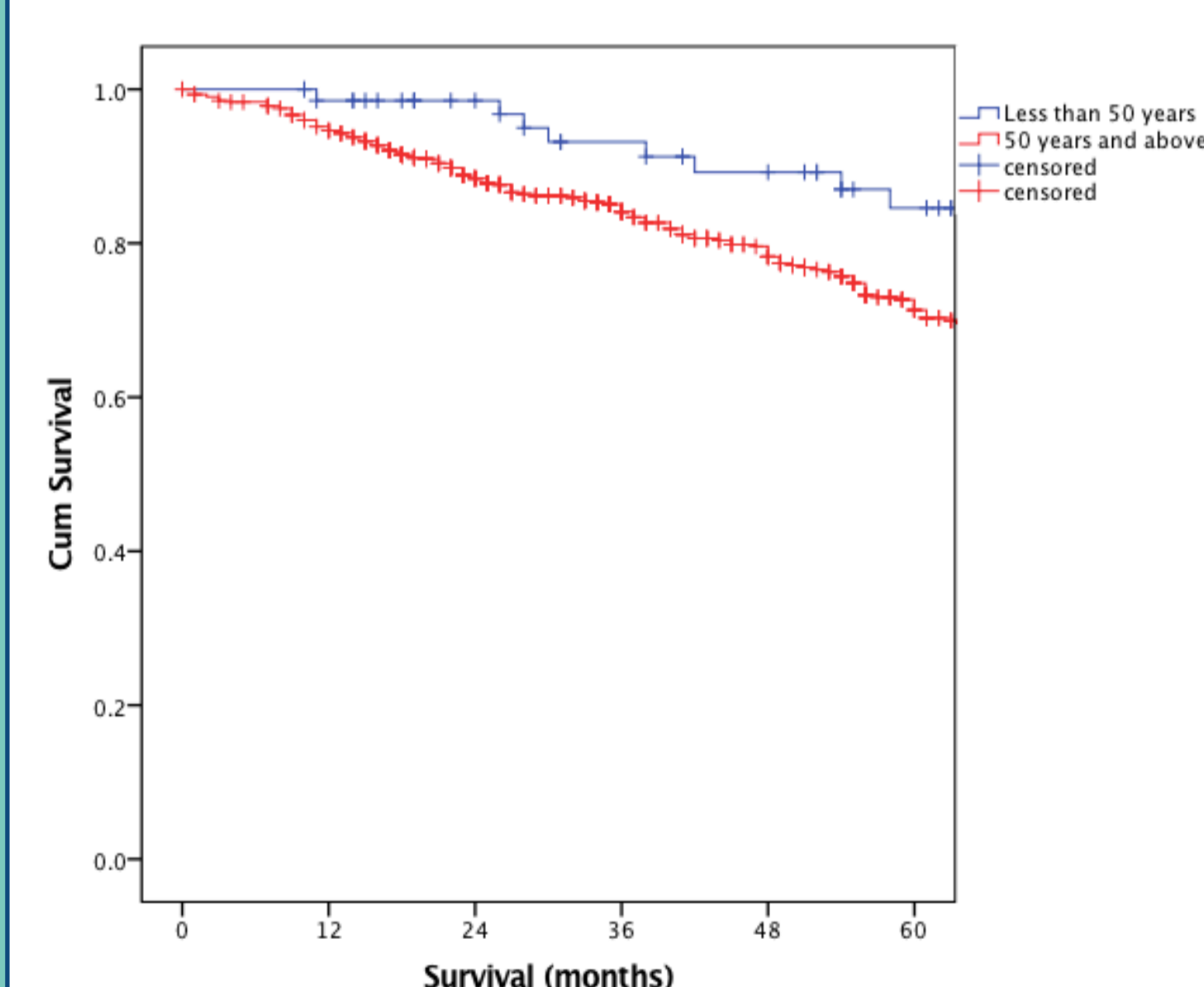


Figure 3. Disease-Free Survival

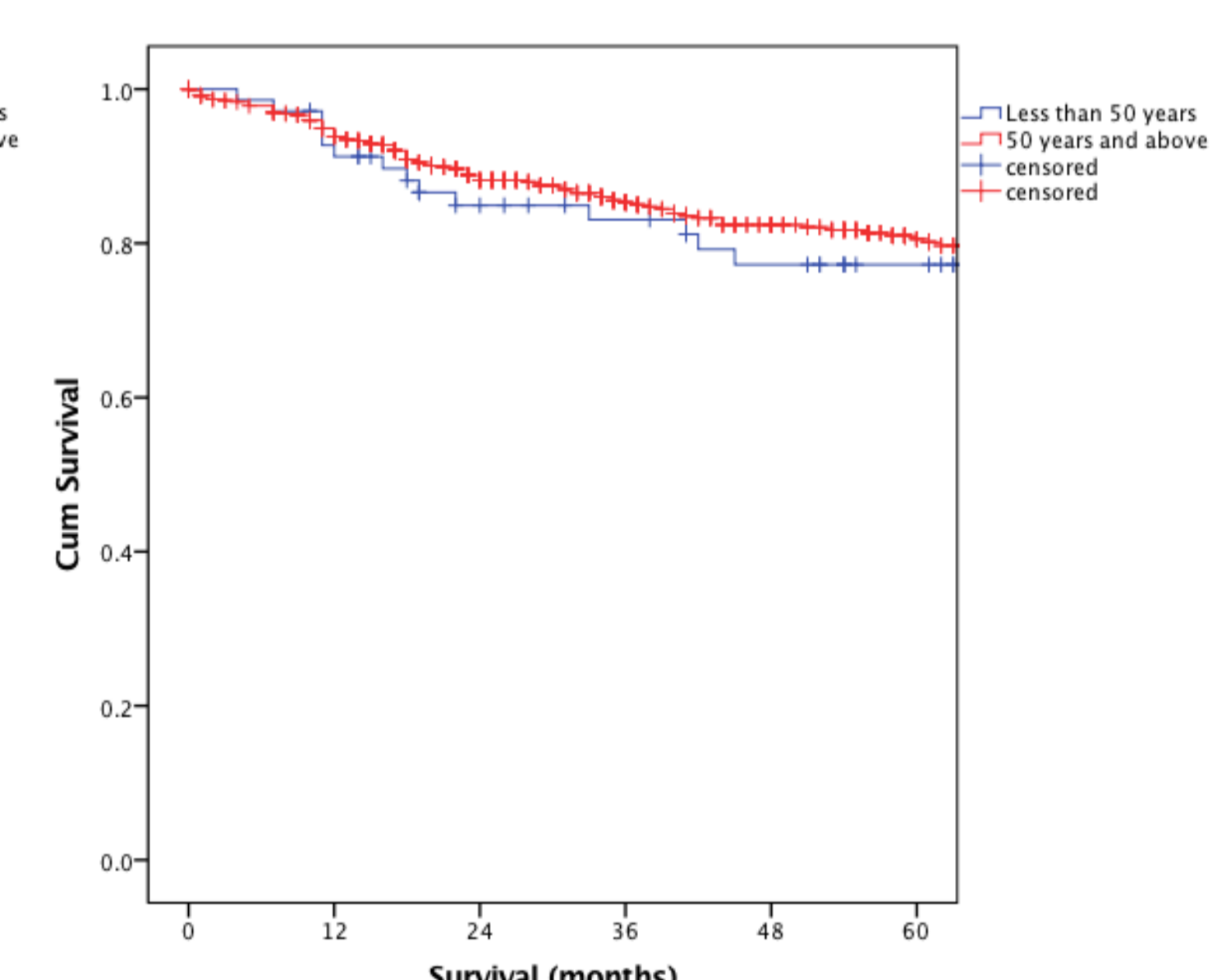


Table 2.	<50 years	≥50 years	P value
<b>Recurrence (any)</b>	15 (21)	102 (17)	0.313
<b>Locoregional</b>	5 (7)	30 (5)	0.392
<b>Distant</b>	10 (14)	74 (12)	0.567

**Conclusion** Despite accessing more treatment, young patients have comparable disease-specific outcomes to older counterparts.