After age 85yr, 1/3 cancers is CRC
Evidence of under-Management:

Cancer in old age—is it inadequately investigated and treated?

N J Turner, R A Haward, G P Mulley, P J Selby

<table>
<thead>
<tr>
<th>Site</th>
<th>Continued by chemotherapy</th>
<th>No definitive treatment</th>
<th>Five year survival</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-60</td>
<td>65-74</td>
<td>75+</td>
</tr>
<tr>
<td>Breast</td>
<td>90</td>
<td>77</td>
<td>52</td>
</tr>
<tr>
<td>Colon</td>
<td>90</td>
<td>76</td>
<td>71</td>
</tr>
<tr>
<td>Lung</td>
<td>82</td>
<td>70</td>
<td>41</td>
</tr>
<tr>
<td>Prostate</td>
<td>94</td>
<td>71</td>
<td>78</td>
</tr>
<tr>
<td>Stomach (non-neglected)</td>
<td>98</td>
<td>96</td>
<td>96</td>
</tr>
<tr>
<td>Stomach</td>
<td>90</td>
<td>90</td>
<td>70</td>
</tr>
</tbody>
</table>

*Includes deaths from other causes.

Evidence of under-Staging:

Colorectal Cancer - UK: stage distribution

<table>
<thead>
<tr>
<th>Distribution of TNM staging by age-group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of cases (%)</td>
</tr>
<tr>
<td>Age-group</td>
</tr>
<tr>
<td>&lt;55</td>
</tr>
<tr>
<td>55-64</td>
</tr>
<tr>
<td>65-74</td>
</tr>
<tr>
<td>75-84</td>
</tr>
<tr>
<td>85+</td>
</tr>
</tbody>
</table>
Evidence of under-Staging:
lymph node involvement and age

Evidence of under-Staging:
Colorectal Cancer - UK: n. nodes retrieved
277 consecutive >70 CRC patients (1975-1985)

Overall mortality: 11%
Curative res. mortality: 2% (70-80) - 7% (>80)
Palliative res. mortality: 21% (70-80) - 38% (>80)
Length of hospital stay not different from Y
Patients should not be denied resection of a colorectal cancer because of age alone, especially if a curative operation is possible

The increased risk of death from major complications, particularly after palliative resection, should be taken into account on patients >80yrs

Lewis AA Br Med J 1988

310 CRC pts (1985-1991)

<table>
<thead>
<tr>
<th></th>
<th>&lt;60</th>
<th>60-75</th>
<th>&gt;75yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall mortality</td>
<td>0%</td>
<td>2%</td>
<td>11%</td>
</tr>
<tr>
<td>0-1 associated illnesses</td>
<td></td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>&gt;2 associated illnesses</td>
<td></td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>Elective resection</td>
<td>0%</td>
<td>10%</td>
<td>17%</td>
</tr>
<tr>
<td>Emergency resection</td>
<td>0%</td>
<td>0%</td>
<td>75%</td>
</tr>
</tbody>
</table>


Resection rates & post-operative mortality were analysed

87% of the patients underwent resection

Low resection rate for E

Postop. mortality 1% >60yr (steep increase with age)

>80 years operative risk was 10%

Independent Prognostic Factors (Multivariate Analysis):

- gender, age, site and stage

In view of the lack of alternatives, elderly patients with colorectal cancer should not be denied surgery on account of chronological age alone.

Damhuis RA. Int J Colorectal Dis 1996
### Patient selection based on:

- "gut feeling"
- ASA
- Comorbidities
- Performance Status (PS)
- Comp. Geriatric Assessment (CGA)
Domains & Available Tools

<table>
<thead>
<tr>
<th>DOMAINS</th>
<th>ASSESSMENT SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOMAINS</strong></td>
<td><strong>ASSESSMENT SCALE</strong></td>
</tr>
<tr>
<td>Functional status:</td>
<td>PS, ADL, IADL</td>
</tr>
<tr>
<td>Comorbidity:</td>
<td>CIRS, Charlson Comorbity Scale</td>
</tr>
<tr>
<td>Cognitive status:</td>
<td>MMS</td>
</tr>
<tr>
<td>Depression:</td>
<td>GDS</td>
</tr>
<tr>
<td>Nutrition:</td>
<td>MNA</td>
</tr>
<tr>
<td>Polypharmacy:</td>
<td>Multidrugs</td>
</tr>
<tr>
<td>Socio-economics issues:</td>
<td>living conditions, caregivers, income, access to transport</td>
</tr>
<tr>
<td>Geriatric syndromes:</td>
<td>Dementia, Delirium, Depression</td>
</tr>
</tbody>
</table>

I Level

30-40mins

II Level

Tips & Personal Views

Pre-operatively
• Avoid acute setting
• Optimize nutritional status
• No bowel preparation
• Supra-pubic catheter (M)

Per-operatively
• Minimise blood losses
• Careful anaesthetics

Post-operatively
• No NGT
• Prompt mobilization
• Early post-operative oral feeding
Emergency Setting - Stents

Colorectal Cancer

Obstruction alone (40%) or associated with other signs is the most frequent presenting complaint

*Limpert P. Crit Rev Oncol Hem 2003*

Operative mortality is higher in Elderly patients undergoing emergency surgery (60%E vs 25%Y)

*Hessman O. Eur J Surg Oncol 1997*

+ high complications rate, stoma, longer hospital stay and increased costs
EMERGENCY SURGERY

Danish National Cancer Registry
2,171 acute CRC pts: obstruction – perforation – bleeding

Postoperative death/decade: <5th 5th 6th 7th 8th >8th
% 7 7 11 24 35 48

Surgical complications: 20% mortality
Medical complications: 58% mortality

Iversen LH. BJS 2008

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Colorectal Stents
first introduced in the 90's

93% success rate
“bridge-to-surgery”

92% treatment under elective conditions

1% death rate (perforation)

Mainar A. Radiology 1999
**Colorectal Stents**

2 systematic reviews (2002-2004)

826 pts: decompression 88%
mortality 0.4%

*Khot UP. BJS 2002*

1198 pts: decompression 94%
mortality 0.6%

*Sebastian S. Am J Gastr 2004*

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**Colorectal Stents**

Case-matched study:
- less operative complications
- shorter hospital stay
- shorter ICU stay
- higher rate of primary anastomosis

*Kan Chung Ng. J Gastrointest Surg 2006*
Transanal endoscopic microsurgery is more effective than traditional transanal excision for resection of rectal masses. More likely to yield clear margins (90 vs. 71%, P = 0.001) for TEM for T1 lesions. More non-fragmented specimens (94 vs. 65%, P < 0.001). Less recurrences after TEM (5 vs. 27%, P = 0.004).

Attainment of TEM may be due to:

- narrow rectal lumen;
- narrow contour of bony pelvis prohibiting passage of the operating proctoscope into the upper rectum;
- inability to maintain the proctoscope in the rectal lumen with CO2 insufflation because of tumor distal location.
Clear resection margins: 90-95%
Overall morbidity: 15-20% (major complications)
Recurrence for polyps: 6.3%
Recurrence for cancers: T1 7.1%, T2 42.8%, T3 66.6%


Introduction

The relative incidence of rectal cancer varies by age. The incidence of rectal cancer decreases with age, from a peak at age 70 to a nadir at age 90. The incidence of rectal cancer is higher in men than in women, with the peak incidence occurring between 50 and 70 years of age. TME is the gold standard for the treatment of rectal cancer. It involves the removal of the rectal wall, the mesorectal fascia, and the mesorectal fat, with preservation of the anal sphincter. TME is associated with a lower rate of local recurrence and a higher rate of sphincter preservation compared to other surgical techniques. TME is recommended for all patients with rectal cancer, regardless of age. However, in elderly patients, the decision to perform TME should be made after careful consideration of patient factors and comorbidities. In patients with limited life expectancy or significant comorbidities, alternative approaches such as endoscopic submucosal dissection or limited resection may be more appropriate.
TME in the elderly
Cancer Registry Data: 1,508pt ≥75yrs

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Hazard ratio</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Z value</th>
<th>p value</th>
<th>Hazard ratio and (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;65 years</td>
<td>0.824</td>
<td>0.687</td>
<td>0.988</td>
<td>-2.034</td>
<td>0.043</td>
<td></td>
</tr>
<tr>
<td>65-74 years</td>
<td>0.799</td>
<td>0.671</td>
<td>0.952</td>
<td>-2.512</td>
<td>0.012</td>
<td></td>
</tr>
<tr>
<td>75-84 years</td>
<td>0.748</td>
<td>0.606</td>
<td>0.913</td>
<td>-3.995</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>≥85 years</td>
<td>0.529</td>
<td>0.462</td>
<td>0.610</td>
<td>-4.590</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>0.859</td>
<td>0.789</td>
<td>0.936</td>
<td>-3.995</td>
<td>0.002</td>
<td></td>
</tr>
</tbody>
</table>

Rutten HJT. Lancet Onc 2008

Table 1: Relative risk of dying after curative rectal-cancer surgery compared with the general population

Rutten HJT. Lancet Onc 2008
### Laparoscopic Surgery

**Case-matched study 75 E vs 105 Y**

- Left colectomy (43%)
- Rectal resection (34%)
- Right colectomy (12%)
- Subtotal colectomy (6%)
- Rectopexy (5%)

**Cardiopulm. Comorbidities:** E (80%) vs Y (33%)

Conversion rate & operative time was similar

Post-op. complications: E (32%) vs Y (26%)

Hospital stay: E (11d) vs Y (10d)

*Chautard G. J Am Coll Surg 2008*
Laparoscopic Surgery

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Liver Metastases
Liver Metastases - Surgery

181 pts  median age 74 yrs (70-82 yrs)
18.8%  received neoadjuvant CT (FOLFOX)
57.5%  > 2 Couinaud’s segments
13 days  median hospital stay
38.5%  postoperative complications
4.9%  in hospital mortality

Overall-surv.  1yr(86.1%)  3yr(43.2%)  5yr(31.5%)
Disease-free surv. 1yr(65%)  3yr(26%)  5yr(16%)

De Liguori Carino N. CROH 2008
Liver Metastases - Surgery

127pts median age 73yrs (70-87yrs)
18.8% received neoadjuvant CT (FOLFOX)
94% > 2 Couinaud’s segments
15 days median hospital stay
31% postoperative complications
7.9% in hospital mortality
Overall-surv. 3yr(61%)
Disease-free surv. 3yr(60%)

Menon KV. J Am Coll Surg 2006

Liver Metastases

Morbidity rate: 7-20%
Mortality rate: 1-5%
Overall survival: 1yr 2yr 3yr 88% 80% 57%
Recurrence: 5-46%

Abitabile P. EJSO 2007
van Oulbd-Alblas MB. Ned Tijdschr Geneeskd. 2008
Conclusions

Large (anecdotal) evidence confirms feasibility of surgery. Findings of RCT on general population not necessarily apply to E. Future RCT should incorporate CGA. Personalised treatment to be considered in clinical practice.