

WHAT FACTORS IMPACT MOST ON OUTCOME OF LOCALLY ADVANCED COLORECTAL CANCER PATIENTS – A POPULATION PERSPECTIVE

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BACKGROUND

- In Quebec, 40% of new colorectal cancers are locally advanced
 - half arising in patients ≥ 70 years in whom management is marked by clinical uncertainty
- Risk of dying from cancer, in locally advanced colorectal cancer patients, depends on
 - clinico-pathologic prognostic features
 - surgical management
 - complementary cancer therapy
- Distribution of these prognostic and management characteristics and knowledge of their relative effect on patients outcome, in Quebec, is unknown

OBJECTIVES

Among Quebec locally advanced colorectal cancer patients alive 30 days after a curative intent tumour resection, we measured:

- 10-year relative survival
- Independent effect of socio-demographic, clinico-pathologic and treatment features on 5-year colorectal cancer death rate
- Distribution of these socio-demographic, clinico-pathologic and management features among the patient population

METHODS

- Multistage random sampling of:
 - stage II-III rectum and stage III colon cancer cases
 - declared in 1998 and 2003
 - with a curative intent surgery
 - alive 30 days post-surgery
- Chart review of all selected cases by two oncology registrars
- Linkage to administrative databases to complete information
- Guideline adherence defined according to chemotherapy, radiotherapy or chemoradiation given in the adjuvant or neoadjuvant setting
- Relative survival measured by the Ederer II method
- Multivariate modelling of the relative excess rate (RER) of death based on a generalised linear model with a Poisson type error – where RER of death can be interpreted as the relative risk of colorectal cancer death
- Sampling design ignored both in estimate and variance calculation

RESULTS

Figure 1

Relative survival of Quebec locally advanced colorectal cancer patients diagnosed in 1998 and 2003

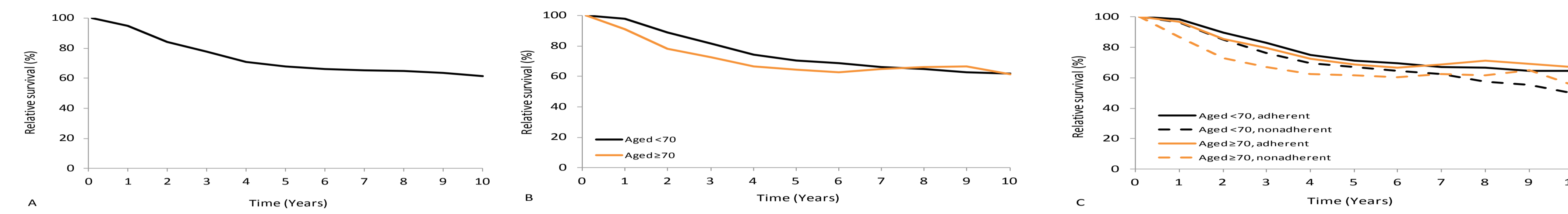


Figure 2

Multivariate modelling of the 5-year relative excess rate (RER) of death

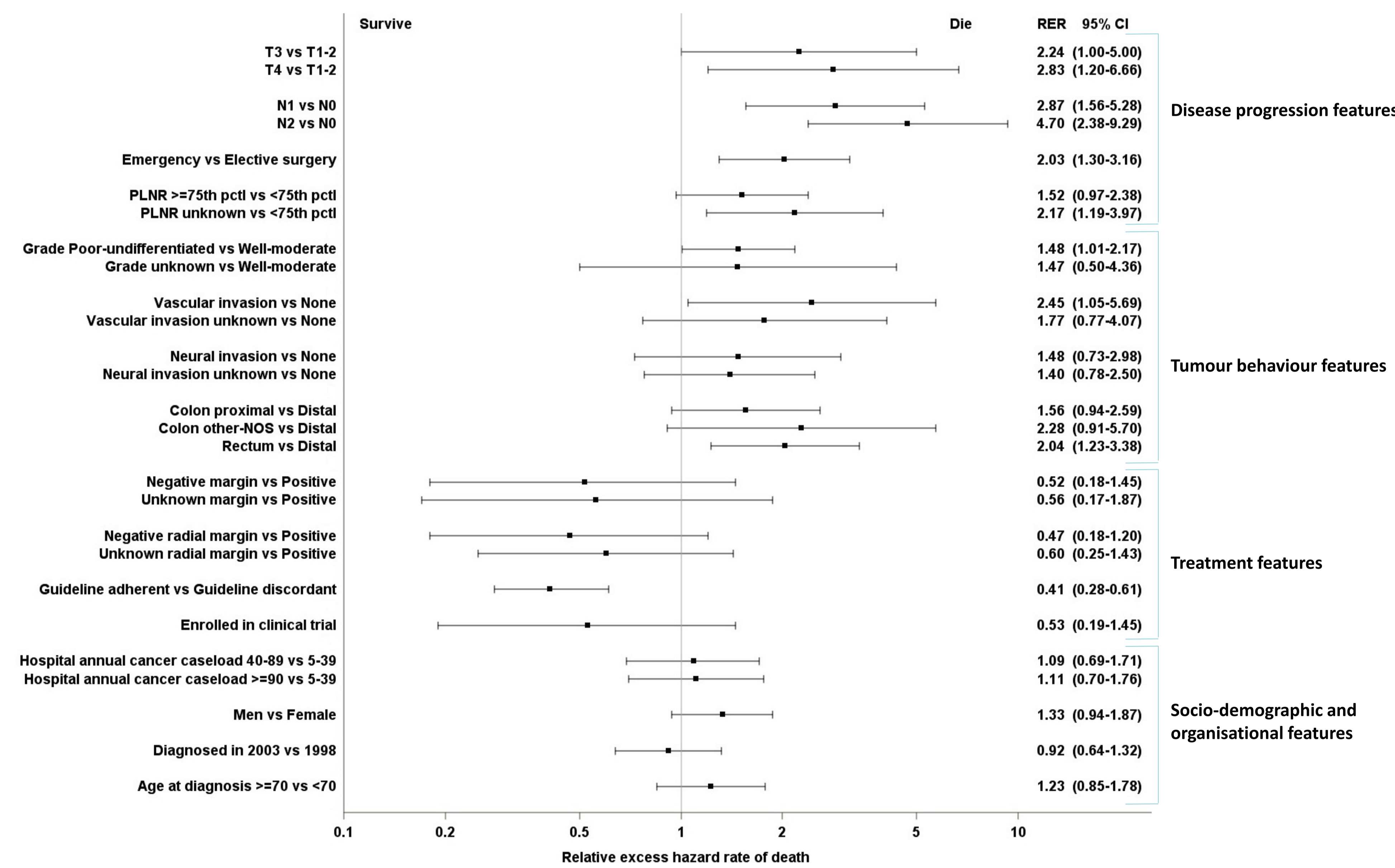


Figure 3

Distribution of the patient population by disease progression features statistically associated to RER of death

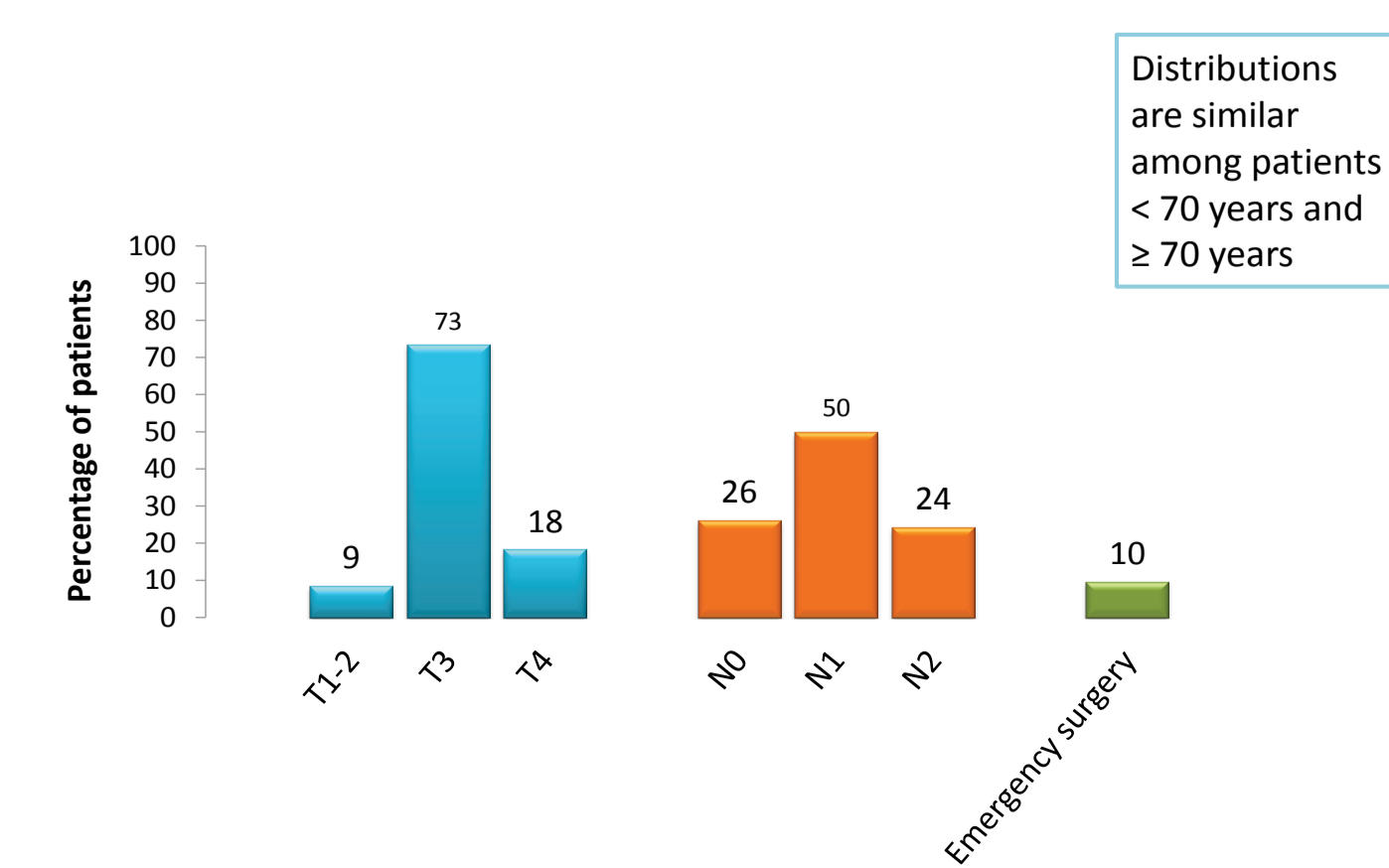


Figure 4

Distribution of the patient population by tumour behaviour features statistically associated to RER of death

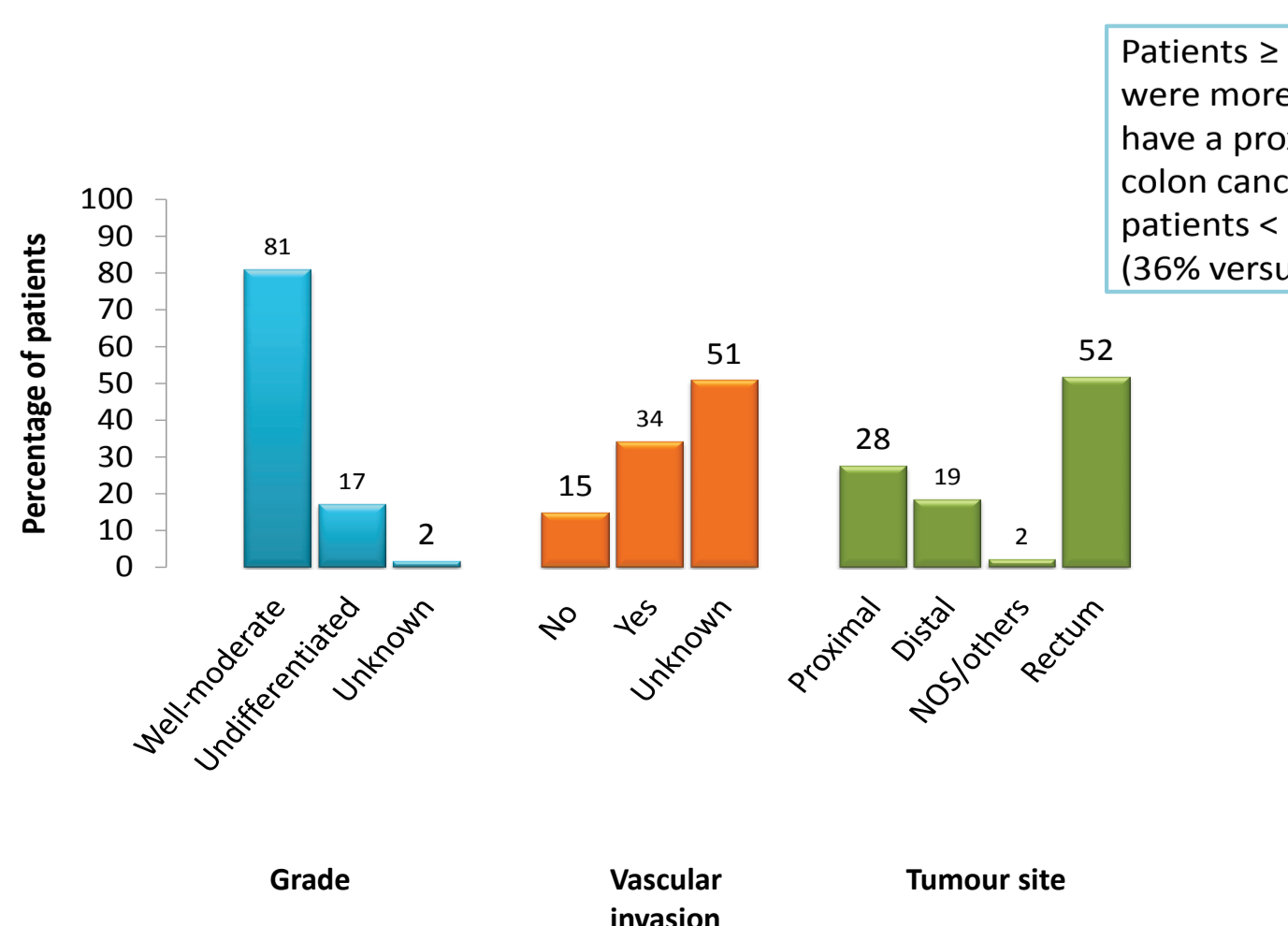
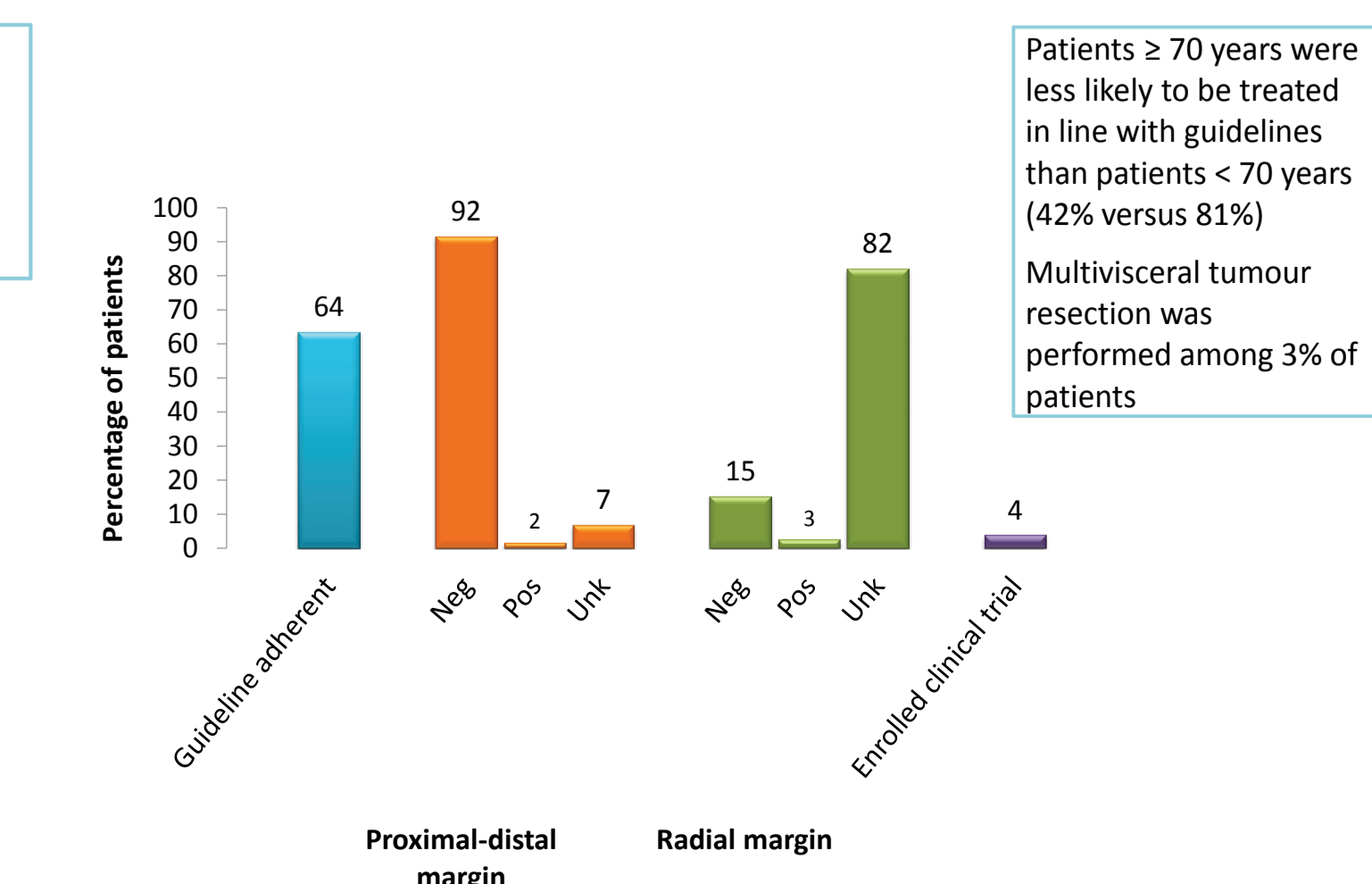


Figure 5

Distribution of the patient population by treatment characteristics



STUDY LIMITS

- RER for guideline adherence is overestimated
 - It should be interpreted as a combined effect of cancer therapy and underlying general health and functioning level
 - Whereby guideline adherent patients are most likely to enjoy a better state than guideline non adherent patients
- Limited statistical power to detect other treatment effect than treatment guideline adherence

TO REMEMBER

- The fraction of colorectal cancer death attributable to:
 - T4 stage, vs T3: 5%
 - T3 stage, vs T1-2: 48%
 - N2 stage, vs N1: 13%
 - N1 stage, vs N0: 48%
 - Emergency surgery, vs elective: 16%
- The fraction of colorectal cancer death prevented by:
 - Guideline adherence, vs none adherence: 38% (see limits)
 - R0, vs R1-2 margins: 44%
- Age, gender, hospital caseload and diagnostic year did not contribute to CRC death rates

CONCLUSION

- Tackling disease progression in preclinical and clinical locally advanced colorectal cancer patients through:
 - Colorectal cancer screening
 - Strategies focused on:
 - symptom awareness
 - timely referral
 - rapid trajectory through investigation and care
- is where much potential gain can be expected in CRC control
- Age discrepancy in treatment, as elsewhere, is an issue to address to insure care equity and possibly achieve some gain in CRC control

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