

# Malnutrition and comorbidities predict early mortality in elderly patients with cancer

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# CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report

# BACKGROUND

- Cancer in elderly patients ↪ a public health problem
- Heterogeneous population ↪ recommendation for CGA
- Problems:
  - Many mortality predictive factors : cancer invasiveness, malnutrition, low functional status, impaired mobility, comorbidities
  - Evolution of disease?
  - How predicting mortality at less than 6 months?
- Objective: Identify the predictive factors of early mortality in elderly patients with cancer
  - ↪ Alert practitioner, Adjust medical care, Improve quality of life

*SIOG 2012, NCCN 2017*

*Puts, J Natl Cancer 2012  
Caillet, Clin Interv Aging 2014*

*Extermann, Crit Rev Oncol Hematol 2005*

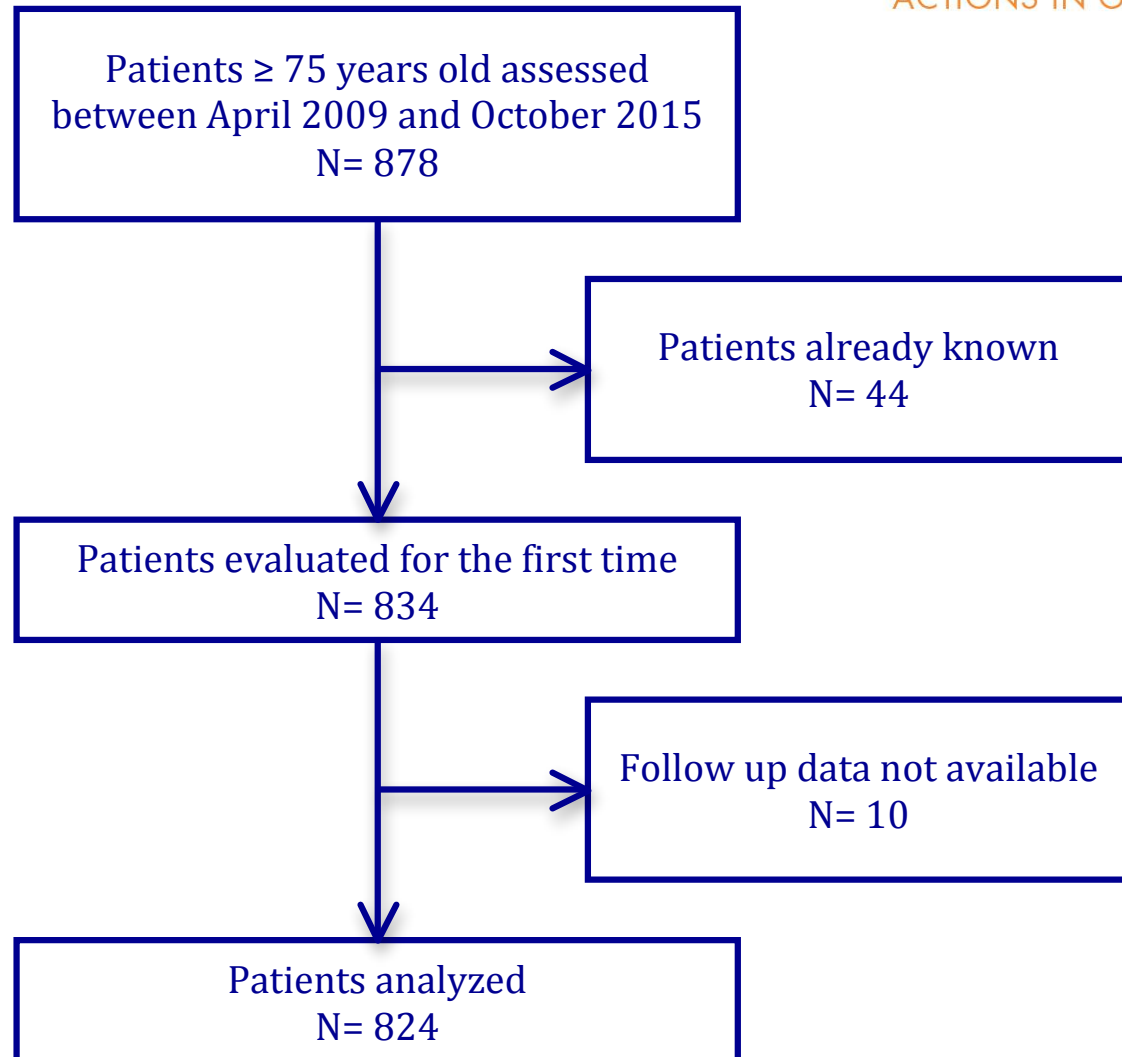
# PATIENTS AND METHODS

- ANCRAGE survey: prospective monocentric cohort
- Referred to the geriatric oncology clinic of Poitiers University hospital
- Inclusion from April 2009 to October 2015
  - Patients  $\geq 75$  years old
  - First consultation
  - Solid cancer or hematologic malignancy

# PATIENTS AND METHODS

- CGA:
  - functional, nutrition and cognitive status
  - Comorbidities (CIRS-G), risks of falls, depression
- Vital status at: 3-6-12 months
- Statistical analysis:
  - 3 months ➤ Logistic regression
  - 6-12 months ➤ Cox model

# FLOW CHART



# RESULTS

- Mean age: 81,8 ± 4,59 years old (range, 75-97)
- Male gender: 48%
  
- Metastasis: 28% of cases
- Tumor sites: breast (18%), other gynecologic malignancies (9%), urinary malignancies (16%), colorectal (13%), prostate (11%) and other (33%)
  
- Mortality rate:
  - 3 months: 13%
  - 6 months: 22%
  - 12 months: 37%

# Factors associated with mortality at 3 months

|                                    | Crude Odds Ratio    |         | Adjusted Odds Ratio<br>(final analysis) |                                 |
|------------------------------------|---------------------|---------|---|---------------------------------|
|                                    | OR CI95%            | p-value | OR CI95%                                | p-value                         |
| Metastasis                         | 2.34 (1.54-3.58)    | <0.01   | 2.20 (1.27-3.81)                        | <0.01                           |
| MNA<17                             | 21.72 (10.35-45.59) | <0.01   | 8.16 (3.47-19.20)                       | <0.01<br>p for trend :<br><0.01 |
| Serum<br>albumin, g/L<br>Mean (SD) | 0.85 (0.82-0.88)    | <0.01   | 0.90 (0.85-0.94)                        | <0.01                           |
| CIRS-G<br>score>8                  | 2.49 (1.45-4.28)    | <0.01   | 2.66 (1.32-5.33)                        | <0.01<br>p for trend :<br><0.01 |



# Factors associated with mortality at 6 months

## Crude Hazard Ratio

## Adjusted stratified hazard Ratio (final analysis)

|                                 | HR CI95%                | p-value         | HR CI95%                | p-value                         |
|---------------------------------|-------------------------|-----------------|-------------------------|---------------------------------|
| Metastasis                      | 2.31 (1.72-3.10)        | <0.01           | 2.10 (1.45-3.01)        | <0.01                           |
| <b>Colorectal tumor</b>         | <b>0.56 (0.34-0.90)</b> | <b>0.02</b>     | <b>0.38 (0.22-0.67)</b> | <b>&lt;0.01</b>                 |
| <b>Breast tumor</b>             | <b>0.16 (0.08-0.32)</b> | <b>&lt;0.01</b> | <b>0.23 (0.10-0.53)</b> | <b>&lt;0.01</b>                 |
| <b>17≤MNA&lt;23,5</b>           | <b>3.69 (1.92-5.95)</b> | <b>&lt;0.01</b> | <b>2.29 (1.34-3.91)</b> | <b>&lt;0.01</b>                 |
| MNA<17                          | 12.88 (7.74-21.46)      | <0.01           | 5.11 (2.78-9.38)        | <0.01<br>p for trend :<br><0.01 |
| Serum albumin, g/L<br>Mean (SD) | 0.89 (0.87-0.91)        | <0.01           | 0.94 (0.91-0.97)        | <0.01                           |
| <b>4&lt;CIRS-G score≤8</b>      | <b>1.27 (0.88-1.83)</b> | <b>0.20</b>     | <b>1.54 (1.02-2.30)</b> | <b>0.04</b>                     |
| CIRS-G score>8                  | 2.02 (1.35-3.04)        | <0.01           | 1.81 (1.12-2.94)        | <0.03<br>p for trend :<br><0.01 |

# Factors associated with mortality at 12 months

|                                 | Crude Hazard Ratio      |                 | Adjusted stratified hazard Ratio<br>(final analysis) |                                |
|---------------------------------|-------------------------|-----------------|--|--------------------------------|
|                                 | HR CI95%                | p-value         | HR CI95%   | p-value                        |
| Metastasis                      | 2.10 (1.67-2.64)        | <0.01           | 1.88 (1.42-2.50)                                     | <0.01                          |
| Colorectal tumor                | 0.66 (0.46-0.94)        | 0.02            | 0.49 (0.32-0.74)                                     | <0.01                          |
| Breast tumor                    | 0.21 (0.13-0.33)        | <0.01           | 0.35 (0.20-0.60)                                     | <0.01                          |
| <b>Prostate tumor</b>           | <b>0.98 (0.68-1.43)</b> | <b>&lt;0.01</b> | <b>0.50 (0.10-0.82)</b>                              | <b>&lt;0.01</b>                |
| 17≤MNA<23,5                     | 2.43 (1.81-3.25)        | <0.01           | 1.70 (1.21-2.39)                                     | <0.01                          |
| MNA<17                          | 6.81 (4.76-9.76)        | <0.01           | 3.20 (2.03-5.05)                                     | <0.01<br>p for trend:<br><0.01 |
| Serum albumin, g/L<br>Mean (SD) | 0.90 (0.88-0.92)        | <0.01           | 0.95 (0.93-0.98)                                     | <0.01                          |
| <b>MMSE score&lt;24/30</b>      | <b>1.55 (1.21-1.99)</b> | <b>&lt;0.01</b> | <b>6.81 (1.94-23.93)</b>                             | <b>&lt;0.01</b>                |
| 4<CIRS-G score≤8                | 1.22 (0.93-1.60)        | 0.15            | 1.29 (1.00-1.84)                                     | 0.05                           |
| CIRS-G score>8                  | 1.83 (1.34-2.50)        | <0.01           | 1.28 (0.92-1.99)                                     | 0.12                           |

# Conclusion

- Weight of MNA
- Comorbidities, predictive of mortality at 3 and 6 months only
  - Early assessment of comorbidities
  - Risk-benefit balance of treatments
- MMSE, predictive of mortality at 12 months only
  - Stress testing, long exam
  - Interest in cooperation, understanding, education
- To go further:
  - Specific mortality predictive factors for each cancer
  - Geriatric assessment
    - Standardized ➤ Personalized
  - Taking into account the patients' evolution

Thanks you for your attention