

# Mortality rate in patients with giant cell arteritis in Spain: causes and associated factors from the ARTESER registry

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## Objective

- To compare mortality rates between giant cell arteritis (GCA) patients and the general population in Spain, and to identify associated factors influencing mortality.

## Methods

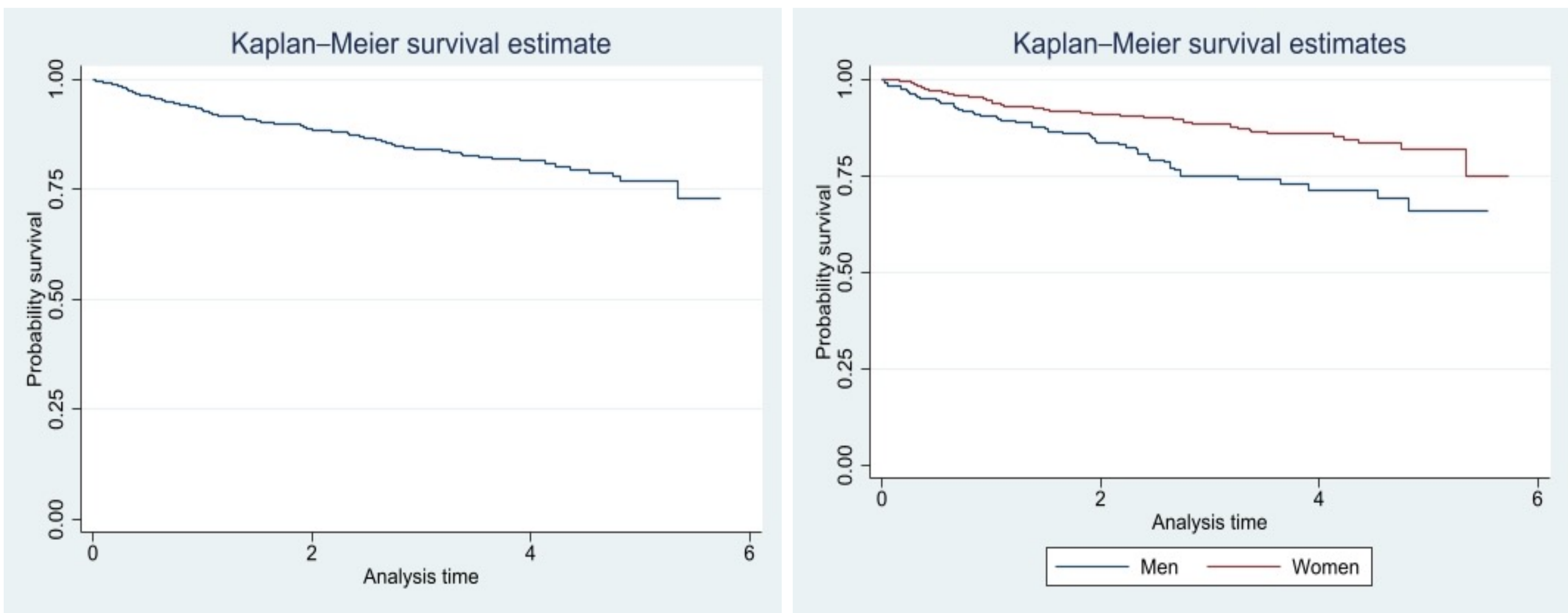
- Spanish Society of Rheumatology multicenter registry of GCA patients from June 2013 - March 2019.
- Clinical, laboratory, imaging and mortality variables were collected at diagnosis and during follow-up
- Only patients who completed the follow-up visits were included in the analysis.
- Kaplan-Meier and Cox regression were performed for survival analysis. Factors associated with mortality were analyzed in both univariable and multivariable analyses.

## Results

- 1200 GCA patients
- Mean (SD) follow-up 2.18 (1.53) years.
- Mean (SD) age 76.58 (8.01) years
- 69.58% female

	One-year cumulative mortality rate of GCA patients (1000 PY)	Five-year cumulative mortality rate of GCA patients (1000 PY)	Five-year cumulative mortality rate (2013-2019) of general population (NSI) (1000 PY)	p*
Global	33.86 (26.33 - 41.39)	37.86 (31.75 - 43.96)	20.72 (20.7 - 20.75)	<0.001
Male	49.18 (32.82 - 65.54)	59.04 (45.11 - 72.96)	23.38 (23.34 - 23.41)	<0.001
Female	27.2 (19.09 - 35.32)	29.06 (22.66 - 35.45)	18.44 (18.4 - 18.47)	<0.001
<60 years	0 (0 - 0)	18.87 (-7.03 - 44.77)	3.73 (3.71 - 3.75)	0.011
60 - 69 years	11.11 (0.28 - 21.94)	10.95 (2.88 - 19.03)	8.53 (8.5 - 8.57)	0.510
70 - 79 years	15.22 (7.31 - 23.13)	18.33 (11.83 - 24.82)	21.11 (21.05 - 21.16)	0.443
> 79 years	65.44 (49.02 - 81.87)	75.24 (61.26 - 89.21)	84.57 (84.45 - 84.7)	0.252

**Table 1.** One- and five-year mortality rates (95% CI) in GCA patients and the general population in Spain (National Statistics Institute), stratified by age and sex. \*Comparison of the five-year cumulative mortality rate in ARTESER and the five-year cumulative mortality rate of the general population (National Statistics Institute)



**Figure 1.** Kaplan-Meier survival rate in A) all patients with GCA and B) distributed by sex, included in the ARTESER registry. The differences in the Kaplan-Meier curves are statistically significant (Log-rank p-value <0.001)

	Total
Total	1200
Dead	142
Cerebrovascular, n (%)	11 (7.7%)
Cardiovascular, n (%)	16 (11.3%)
Infection, n (%)	44 (31%)
Pulmonary disease, n (%)	1 (0.7%)
Malignancy, n (%)	23 (16.1%)
Unknown, n (%)	31 (21.8%)
Other, n (%)	16 (11.3%)

**Table 2.** Causes of death in the total CGA population

Variables	HR	95% CI
Female	0.542*	0.376 - 0.782
Age	1.110*	1.077 - 1.143
Headache	0.610*	0.406 - 0.916
Fever	0.709	0.429 - 1.172
Previous antiplatelet use	1.415	0.952 - 2.103
Abnormal TA clinical examination	1.208	0.762 - 1.915
ESR (mm/h)	1.003	0.997 - 1.009
Hemoglobin (g/dL)	0.851*	0.748 - 0.967
Platelets 109/L	0.998	0.997 - 1.000

**Table 3.** Multivariable analysis of factors associated with mortality in patients with GCA. HR: Hazard ratio, \* p<0.05

## Conclusion

- The overall five-year cumulative mortality rate (95% CI) is 37.86 (31.75-43.96) per 1000 patients/year, similar to the age adjusted rate of the general population.
- Older age is associated with an increased risk of mortality, whereas female sex, headache, and high hemoglobin levels are protective factors against death.