LONG-TERM SURVIVAL OF VERY OLD INTENSIVE CARE PATIENTS AFTER ICU ADMISSION

2005-2009 vs. 2015-2019

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BACKGROUND

10 years of progress in medical science and technology have had a huge impact on how we treat patients in the ICU. Obviously, the intention of this progress is to ensure better survival of patients during their stay in ICU, as well as after discharge. But does this progress benefit our most vulnerable patients, the Very old Intensive care Patients (VIP), over 80 years old ?

During the VIP1 (2016) and VIP2 (2018) studies, in which our ICU actively participated, we noticed that many of our included VIP patients died shortly after discharge from ICU.

GOALS

To determine the long-term outcome of VIP patients after dismissal from the ICU. Rate of survival in the first year after dismissal for possible death was evaluated.

To compare the survival rate between the last 5 years (15-19) and that a decade ago (05-09), to see if progress in medicine has provided our patients with a bigger chance of survival after treatment at the ICU.

METHODS & MATERIALS

Setting: az Sint-Blasius, Dendermonde, Belgium, a 438 beds general hospital with university affiliation, with a 12 beds mixed medical-surgical ICU.

A query was performed in the ICU database, identifying all VIPs admitted between 05-09 and 15-19. Data were crossmatched with data in the electronic patient file (EPF), which is linked to the Belgian national register, showing actual vital status or date of death.

To avoid bias of VIPs who were repeatedly re-admitted in ICU, we excluded all admissions of VIPs that were readmitted in the 12 months prior to final admission.

Statistical tests: Chi-square and Mann-Whitney U-tests for demographic analysis, Kaplan-Meier survival analysis with log-rank test; $p < 0.05$ was considered statistically significant.

The study has been approved by the Committee for Medical Ethics of az Sint-Blasius (n° BB012201941151).

EU-GDPR requirements were met.

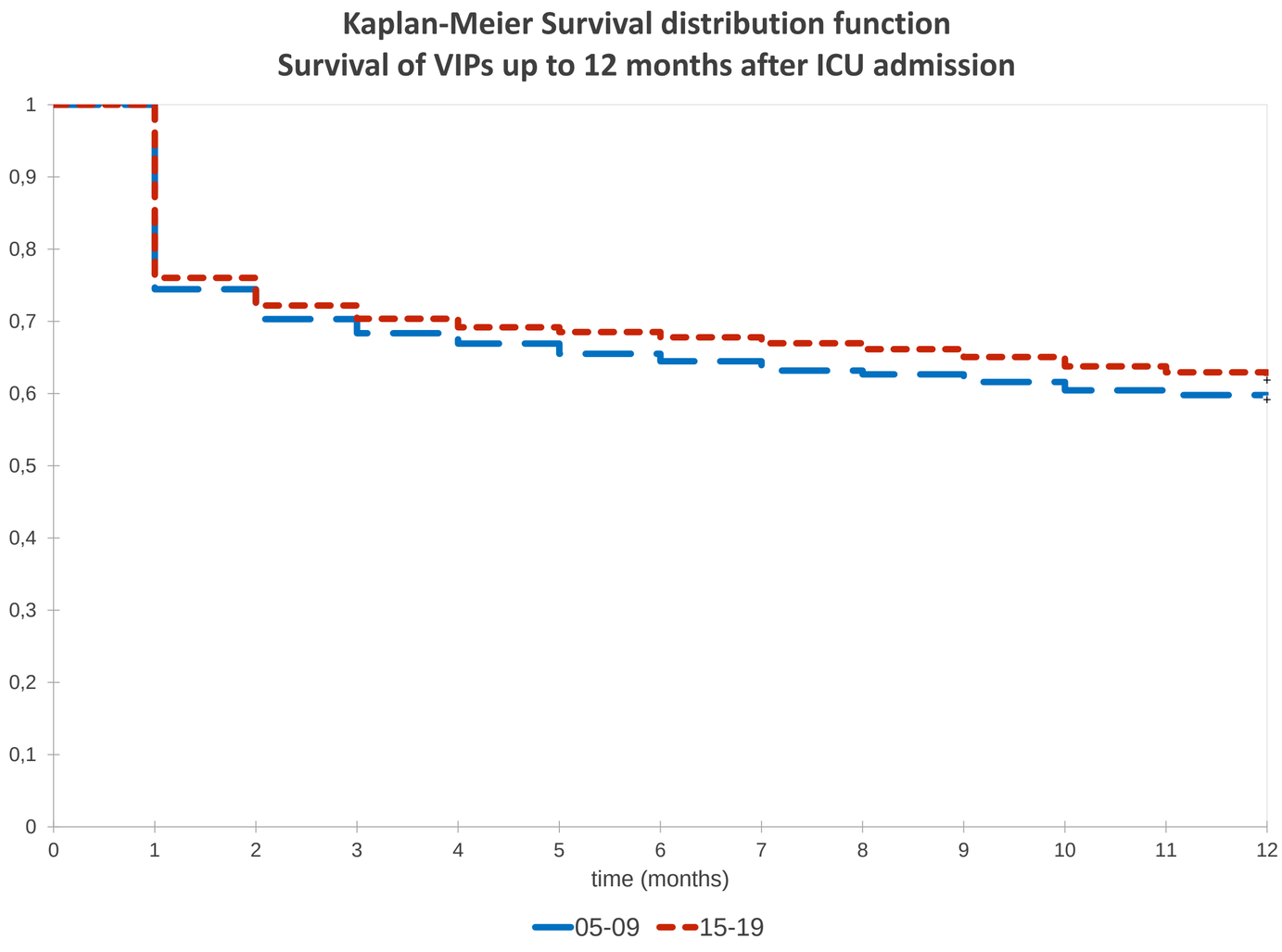
RESULTS AND LESSONS LEARNED

In 15-19 significantly more VIPs were admitted to the ICU.
After applying exclusion criteria, 771 vs. 1093 admissions were analyzed.
Exclusion rate was similar in both groups.

Median age was higher in the 15-19 cohort.
Gender did not differ significantly.

Length of stay was shorter in 15-19.

	05-09	15-19	Statistics
N admission of pts > 80y	885	1268	$X^2 = 36.42$; $p < 0.0001$
Excluded (for multiple re-admissions)	114	175	$X^2 = 0.3$; $p = 0.584$
N admissions of pts > 80y after exclusion	771	1093	
Lost to follow-up	0	0	
Median age (y)	83 ± 3.15	84 ± 3.41	$z = -2.63$; $p = 0.009$
Gender	Male 342 Female 429	Male 524 Female 569	$X^2 = 2.19$; $p = 0.139$
Length of stay (calendar days)	3	2	$z = 4.832$; $p < 0.0001$
ICU mortality	33 (3.73%)	107 (9.79%)	$X^2 = 26.4$; $p < 0.0001$
Mortality up to 12 months after admission	315 (40.86%)	417 (38.15%)	Log-rank observed value = 1.386 ; $p = 0.239$



ICU mortality was higher in 15-19, but after ICU discharge mortality did not differ significantly up to 12 months after admission.

Mortality was highest in the first month after ICU admission.

CONCLUSIONS

As a consequence of an aging population, the number of admissions of VIPs in ICU is increasing, as is the median age of these VIPs.

Although ICU mortality was lower in 05-09, mortality during the first year after ICU admission did not differ. In both study periods, mortality of VIPs was highest in the first month after ICU admission.

Our presumption that 10 years of medical advancement would make survival of this population better, was incorrect.