

# EARLY MORTALITY ON DIALYSIS: DATA FROM THE EMILIA-ROMAGNA DIALYSIS REGISTRY

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## INTRODUCTION

The mortality rates of chronic dialysis patients are much higher than those of the general population. Many Dialysis Registries do not include patients who die in the first three months of replacement therapy, so the actual mortality rate is highly underestimated, particularly as concerns the first few months of therapy. Increasing age and comorbidity of the incident dialysis patients instead greatly increase the risk of early death.

## METHODS

Emilia-Romagna is a region of northern Italy (Fig 1) with nearly 4,500,000 inhabitants. The Dialysis Registry was established in 1994; its size (at Dec 31, 2012) is shown in Table 1.

We analyzed the mortality of incident dialysis patients over 3 years (2009-2011), focusing on EARLY MORTALITY, defined as death occurring during the first 12 months of dialysis (the early mortality of a certain year thus includes both the incident patients of that year and the incident patients of the previous year).



Fig. 1

**Table 1 - Patients on RRT in Emilia-Romagna**

▪ Hemodialysis:	2955
▪ Peritoneal Dialysis:	324
▪ Renal Transplantation:	1298

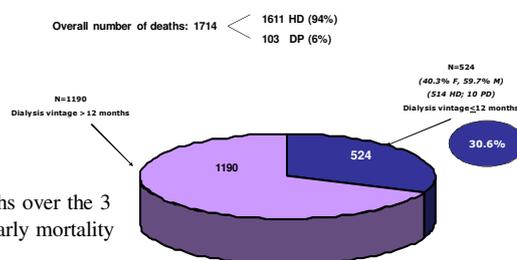


Fig. 2- Deaths over the 3 years and early mortality

Table 2 – Age at death of the patients with early mortality (% of the overall number of early deaths)

Age (years)	%
<15	0
15-25	0
45-65	14.2 %
65-75	22.16%
>75	<b>63.63%</b>

Table 3 – Early death on the basis of the dialysis modality and vintage

	Hemodialysis	Peritoneal Dial
<3 months	<b>270 (52.6%)</b>	<b>0</b>
3-6 months	107 (20.8%)	0
6-12 months	137 (26.6%)	10 (100%)



Temporary CVC 47%



Permanent access 53%

Fig 3 – Vascular access of the HD patients died within the first year

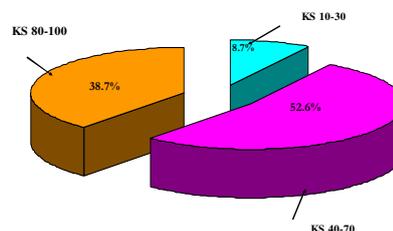


Fig 4– Karnofsky score (KS) of the patients with early mortality

## RESULTS AND CONCLUSION

“Early mortality” was found for as many as 524 out of 1,714 patients who died in the period 2009-2011 (HD+PD), corresponding to nearly one third (30.6%) of the overall mortality (Fig 2). Most of the patients dying early (63.6%) were over 75 years of age (Table 2). More than half (52.6%) of the patients with early mortality actually died before the third month of dialysis treatment (Table 3). Nearly half of the patients on HD who died early had a temporary vascular access (Fig 3), often secondary to a late nephrological referral. The Karnofsky Score (KS) shows that most of the patients presented a medium-high level of inability (Fig 4). Cardiovascular events were the main causes of death: (46.3%), especially for those patients who died in the first three months (54.9%)..

Early mortality is a dramatic phenomenon that can be captured only by those Dialysis Registries recording all the patients incident to dialysis, independent of the survival period. The possibility of an early death should be discussed with the families of the older and more comorbid patients before starting up a chronic dialysis program.