Objectives

Few studies have examined the characteristics and outcomes of AKI patients with and without cancer requiring CRRT. The purposes of this study were: First, to evaluate and compare the characteristics and outcomes of cancer and noncancer patients with AKI requiring CRRT, Second, to determine the impact of cancer diagnosis on hospital mortality; and Lastly, to compare outcome predictors between the two groups of patients

Methods

We conducted a retrospective cohort study. We evaluated patients with AKI who were treated in ICU of Kosin University Gospel Hospital from January 1, 2010 to December 31, 2011. The patients were divided into two major groups: 158 non cancer-AKI patients and 42 cancer-AKI patients. Predictors of all-cause death were examined using the Kaplan-Meier and Cox proportional hazards analyses in both treatment groups.



Figure 1. Patient survival rate in cancer group and non-cancer group

Outcomes of acute kidney injury patients with and without cancer requiring continuous renal replacement therapy and admitted to intensive care units Department of Internal Medicine, Kosin University College of Medicine Hark Rim, M.D., Ho Sik Shin, M.D. and Yeon Soon Jung M.D.

Results



No. of patients	N
Male Female	(n
Age. vear (range)	65
CKD (%)	58
Death (%)	78
Cause of death(%)	
MOF	37
Cardiac	25
Cerebral	5(
Respiratory	5(
Tumor recurrence	N
Clinical Setting	
Medical (%)	12
Surgical (%)	35
Form of admission	
Unscheduled operation	23
Medical	12
Scheduled operation	32
Oliguria (%)	96
Mechanical ventilation (%)	11
Vasoactive Drug (%)	1(
Bleeding tendency (%)	71
Sepsis (%)	82
Underlying disease (%)	
None	44
DM	72
HBP	30
LC	11
Heart disease	1(
No. of organ failure (range)	1.
Renal function at initial dialysis	
Urine output (mL/day)	65
BUN (mg/dL)	53
Serum Creatinine (mg/dL)	4.

Table 1. Characteristics of Patients treated with CRRT

on-Cancer n=158)	Cancer (n=42)	P value
7:74	31:11	0.016
5.8 ± 13.0	65.2 ± 10.3	0.771
8 (36.7)	11(26.2)	0.202
8(49.4)	29(69.0)	0.023
7(51.4)	20(74.1)	0.002
5(34.7)	2(7.4)	
(6.9)	0(0)	
(6.9)	2(7.4)	
A	3(11.1)	
		0.861
23(78.2)	32(76.9)	
5(21.8)	10(23.1)	
		0.026
3(15.0)	1(2.6)	
23(78.2)	32(76.9)	
2(6.8)	9(20.5)	
6(60.8)	26(63.2)	0.794
11(70.1)	24(57.9)	0.151
01(64.1)	27(64.1)	1.000
1(44.9)	19(45.9)	0.912
2(52.1)	31(74.4)	0.013
		0.043
4(27.8)	21(50.0)	
2(45.6)	13(31.0)	
0(19.0)	8(19.0)	
1(7.0)	0(0)	
(0.6)	0(0)	
.3 ± 0.8	1.5 ± 0.5	0.338
56 ± 845	579 ± 626	0.604
3.8 ± 30.1	71.5 ± 39.5	0.002
.2 ± 3.0	4.3 ± 2.4	0.805

Table 2. Characteristics of CRRT

Variables	Non-Cancer (n=158)	Cancer (n=42)	P value
Days to start CRRT treatment	57+100	156+303	0 054
(days)	0.7 ± 10.0		0.00-
ICU length of stay(days)	15.6 ± 19.9	11.9 ± 11.1	0.280
Duration of treatment(hours)	173 ± 386	122 ± 130	0.428
Mode of CRRT			1.000
CVVHDF (%)	100 (100)	100 (100)	
CVVH (%)	0 (0)	0 (0)	
Filter life span(hr)	23.4 ± 17.5	21.5 ± 15.8	0.560
Filter pressure(mmHg)	112.2 ± 51.5	107.6 ± 48.7	0.687
Effluent pressure(mmHg)	4.6 ± 65.6	3.0 ± 47.3	0.908
TMP, mmHg	71.3 ± 41.1	85.8 ± 115.1	0.325
Blood flow rate(mL/min)	116 ± 24	140 ± 147	0.342
Net ultrafiltration(mL/hr)	165.8 ± 271.5	194.3 ± 346.3	0.594
Replacement flow rate(mL/min)	1097 ± 293	1143 ± 270	0.390
Dialysate flow rate(mL/min)	1080 ± 217	1100 ± 198	0.614
Effluent flow rate(mL/kg/hr)	39.0 ± 8.2	40.6 ± 8.4	0.305
Anticoagulation			0.151
Heparin (%)	93 (58.9)	23 (55.3)	
Nafamostat mesilate (%)	65 (41.1)	19 (43.7)	
Insertion site of catheter			0.510
Rt int jugular vein (%)	150 (95.4)	42 (100)	
Lt int jugular vein (%)	6 (3.7)	0 (0)	
Femoral vein (%)	2 (0.9)	0 (0)	
Patient's status at ending of CRRT			0.352
recovery of renal function	40 (25.0)	7 (15.6)	
chronic kidney disease	21 (13.4)	3 (7.7)	
maintenance of hemodialysis	19 (12.2)	3 (7.7)	
death	78 (49.9)	29 (69.0)	

Hospital mortality rates were higher in patients with cancer than in patients without cancer. Gender, presence of cancer and number of failed organs were significant predictors of mortality.

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- 4. N Engl J Med. 2008; **359**:7–20.



Conclusions

References

1. Nephrol Dial Transplant (2011) 26: 537–543