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| Table 1.1 Risk factors for mortality assessed by univariate and multivariate Cox regression model | | | | | | |
|  | Patients younger than 60 years old  PD (n = 352), HD (n = 233) | | | Patients older than 70 years old  PD (n = 48), HD (n = 92) | | |
|  | Univariate  HR (95% CI) | Multivariate1  HR (95% CI) | PSM2-Multivariate1  PD and HD (n = 226)  HR (95% CI) | Univariate  HR (95% CI) | Multivariate1  HR (95% CI) | PSM2-Multivariate1  PD and HD (n = 42)  HR (95% CI) |
| Age at dialysis initiation (per 1 year) | **1.03(1.00-1.06)** | 1.02(0.99-1.05) | 1.02(0.99-1.06) | 1.05(0.98-1.11) | 1.05(0.98-1.13) | 1.07(0.96-1.18) |
| Sex (female vs male) | 0.58(0.33-1.00) | **0.53(0.29-0.95)** | 0.58(0.30-1.13) | 0.83(0.49-1.42) | 0.90(0.49-1.63) | 1.14(0.47-2.75) |
| Diabetes(n) | **1.89(1.12-3.20)** | 1.14(0.62-2.11) | 1.26(0.46-3.44) | 1.00(0.58-1.70) | 1.13(0.61-2.09) | 1.77(0.61-5.17) |
| Hypertension(n) | 1.68(0.67-4.20) | 1.33(0.50-3.52) | 1.44(0.43-4.86) | 1.18(0.16-8.56) | 1.52(0.19-12.24) | 0.95(0.10-8.92) |
| Charlson Comorbidities Index(CCI) | **1.23(1.07-1.41)** | 0.93(0.64-1.36) | 0.63(0.24-1.66) | 1.02(0.82-1.25) | 0.90(0.61-1.32) | 1.06(0.64-1.75) |
| Congestive heart failure(n) | 1.51(0.87-2.61) | 1.11(0.61-2.00) | 1.22(0.56-2.65) | 1.08(0.63-1.85) | 0.99(0.52-1.85) | 1.35(0.49-3.71) |
| Cerebrovascular disease(n) | 1.72(0.78-3.80) | 1.21(0.52-2.81) | 1.24(0.42-3.65) | 1.04(0.60-1.79) | 0.83(0.44-1.57) | 0.56(0.19-1.63) |
| Chronic pulmonary disease(n) | 1.42(0.51-3.93) | 1.07(0.38-3.02) | 0.93(0.26-3.27) | 1.83(0.96-3.48) | 1.68(0.81-3.50) | 1.00(0.34-2.96) |
| Cardiovascular disease(n) | **2.87(1.41-5.86)** | **2.56(1.16-5.66)** | 1.79(0.71-4.51) | 1.29(0.73-2.28) | 1.44(0.70-2.95) | **3.61(1.31-10.00)** |
| Body mass index (per 1kg/m2) | 1.04(0.98-1.11) | 1.01(0.94-1.08) | 1.02(0.95-1.10) | 0.95(0.88-1.02) | 0.96(0.88-1.04) | 0.88(0.77-1.01) |
| Hemoglobin (per 1g/L) | 1.01(0.99-1.02) | 1.00(0.99-1.02) | 1.00(0.99-1.02) | 1.00(0.98-1.01) | 1.00(0.98-1.01) | 1.01(0.99-1.03) |
| Plasma albumin (per 1g/L) | 0.97(0.93-1.02) | 0.98(0.94-1.04) | 0.99(0.93-1.04) | 0.96(0.91-1.02) | 0.96(0.90-1.02) | 1.02(0.92-1.13) |
| Triglyceride (per 1mmol/L) | 1.00(0.97-1.03) | 1.03(0.98-1.08) | 1.20(0.78-1.84) | 0.98(0.95-1.02) | 1.00(0.94-1.05) | 1.41(0.63-3.12) |
| Cholesterol (per 1mmol/L) | **1.31(1.12-1.54)** | **1.37(1.16-1.63)** | **1.27(1.02-1.58)** | 1.04(0.79-1.36) | 1.07(0.79-1.46) | 1.13(0.73-1.75) |
| Dialysis Methods (HD *vs.* PD) | **1.85(1.09-3.14)** | **1.96(1.13-3.41)** | **2.26(1.17-4.35)** | 0.58(0.33-1.03) | **0.46(0.23-0.91)** | **0.33(0.14-0.79)** |

PSM, Propensity score match; HR, hazard ratio; 95% CI, 95% confidence interval; PD, Peritoneal dialysis; HD, Hemodialysis.

1. Variables adjusted in multivariate Cox model for both subgroups: sex, age at dialysis initiation, diabetes mellitus, cerebrovascular disease, congestive heart failure, chronic pulmonary disease, cardiovascular diseases, CCI, primary disease of renal failure (glomerulonephritis or polycystic kidney disease), body mass index, plasma albumin, cholesterol, and hemoglobin.
2. The characteristics used in PSM included: sex, age at dialysis initiation, diabetes mellitus, cerebrovascular disease, congestive heart failure, chronic pulmonary disease, cardiovascular diseases, CCI, primary disease of renal failure (glomerulonephritis or polycystic kidney disease), body mass index, plasma albumin, cholesterol, and hemoglobin.

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| Table 1.2 Variance inflation factor (VIF) of the multivariate Cox regression model include CCI and comorbidityes | | | | | | |
|  | orginal dataset | | | PSM dataset | | |
|  | <60-years-old | 60to70-years-old | >70-years-old | <60-years-old | 60to70-years-old | >70-years-old |
| Dialysis Methods (HD vs. PD) | 1.399528 | 1.156507 | 1.103841 | 1.081954 | 1.154861 | 1.324384 |
| Sex (female vs male) | 1.504648 | 1.264704 | 1.160904 | 1.228256 | 1.345003 | 1.706702 |
| Diabetes(n) | 2.026922 | 3.065048 | 3.159206 | 3.227497 | 3.171841 | 2.899197 |
| Congestive heart failure(n) | 1.70394 | 1.84072 | 1.734104 | 1.774127 | 1.715441 | 1.693847 |
| Cerebrovascular disease(n) | 1.92631 | 1.527205 | 1.556543 | 1.621959 | 1.529745 | 1.517362 |
| Chronic pulmonary disease(n) | 1.376709 | 1.400834 | 1.196508 | 1.211809 | 1.504301 | 1.37369 |
| Cardiovascular disease(n) | 1.629495 | 1.259178 | 1.291255 | 1.240148 | 1.239658 | 2.005396 |
| Charlson comorbidities index (CCI) | 3.090732 | 4.921979 | 4.905061 | 5.111171 | 5.052696 | 3.330286 |
| Body mass index (per 1kg/m2) | 1.391427 | 1.200695 | 1.229761 | 1.148485 | 1.214306 | 1.266276 |
| Cholesterol (per 1mmol/L) | 1.235048 | 1.527901 | 1.253628 | 1.210758 | 1.508155 | 1.2834 |
| Plasma albumin (per 1g/L) | 1.289694 | 1.356043 | 1.364108 | 1.322266 | 1.317764 | 1.169168 |
| Hemoglobin (per 1g/L) | 1.404438 | 1.270176 | 1.211477 | 1.263993 | 1.327886 | 1.610464 |
| dialysis\_begin\_age | 1.314442 | 1.113297 | 1.252979 | 1.259612 | 1.174637 | 1.161355 |

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| Table 2.1 Risk factors for mortality assessed by univariate and multivariate Cox regression model (include CCI only) | | | | | | |
|  | Patients younger than 60 years old  PD (n = 352), HD (n = 233) | | | Patients older than 70 years old  PD (n = 48), HD (n = 92) | | |
|  | Univariate  HR (95% CI) | Multivariate1  HR (95% CI) | PSM2-Multivariate1  PD and HD (n = 225)  HR (95% CI) | Univariate  HR (95% CI) | Multivariate1  HR (95% CI) | PSM2-Multivariate1  PD and HD (n = 48)  HR (95% CI) |
| Age at dialysis initiation (per 1 year) | **1.03(1.00-1.06)** | **1.03(1.00-1.06)** | 1.03(0.99-1.06) | 1.05(0.98-1.11) | 1.05(0.98-1.12) | 1.08(0.98-1.18) |
| Sex (female vs male) | 0.58(0.33-1.00) | 0.57(0.32-1.01) | 0.48(0.24-0.99) | 0.83(0.49-1.42) | 0.87(0.49-1.54) | 1.31(0.68-2.54) |
| Diabetes(n) | **1.89(1.12-3.20)** | 1.07(0.48-2.38) | 0.98(0.39-2.50) | 1.00(0.58-1.70) | 1.23(0.61-2.47) | 0.89(0.46-1.70) |
| Hypertension(n) | 1.68(0.67-4.20) | 1.34(0.51-3.48) | 1.38(0.41-4.62) | 1.18(0.16-8.56) | 1.71(0.23-12.79) | 0.90(0.12-6.63) |
| Charlson Comorbidities Index (CCI) | **1.23(1.07-1.41)** | 1.12(0.92-1.38) | 1.15(0.90-1.46) | 1.02(0.82-1.25) | 1.02(0.81-1.29) | 0.93(0.72-1.21) |
| Congestive heart failure(n) | 1.51(0.87-2.61) | 1.09(0.59-2.01) | 1.36(0.67-2.74) | 1.08(0.63-1.85) | 1.11(0.62-2.00) | 1.29(0.67-2.48) |
| Cerebrovascular disease(n) | 1.72(0.78-3.80) | 0.88(0.37-2.10) | 1.02(0.41-2.52) | 1.04(0.60-1.79) | 0.80(0.40-1.59) | 1.21(0.62-2.38) |
| Chronic pulmonary disease(n) | 1.42(0.51-3.93) | 0.93(0.32-2.70) | 0.80(0.23-2.75) | 1.83(0.96-3.48) | 1.53(0.74-3.16) | 1.20(0.52-2.80) |
| Cardiovascular disease(n) | **2.87(1.41-5.86)** | **2.70(1.28-5.69)** | **2.43(1.03-5.75)** | 1.29(0.73-2.28) | 1.35(0.68-2.66) | **2.01(1.01-3.99)** |
| Body mass index (per 1kg/m2) | 1.04(0.98-1.11) | 1.02(0.95-1.09) | 1.00(0.92-1.09) | 0.95(0.88-1.02) | 0.93(0.85-1.01) | **0.88(0.80-0.97)** |
| Hemoglobin (per 1g/L) | 1.01(0.99-1.02) | 1.01(0.99-1.02) | 1.00(0.99-1.02) | 1.00(0.98-1.01) | 1.00(0.99-1.01) | 0.99(0.97-1.01) |
| Plasma albumin (per 1g/L) | 0.97(0.93-1.02) | 0.99(0.94-1.04) | 0.99(0.93-1.05) | 0.96(0.91-1.02) | 0.96(0.90-1.02) | 0.97(0.91-1.05) |
| Triglyceride (per 1mmol/L) | 1.00(0.97-1.03) | 1.09(0.75-1.59) | 1.18(0.76-1.83) | 0.98(0.95-1.02) | 1.15(0.79-1.68) | 1.13(0.64-1.98) |
| Cholesterol (per 1mmol/L) | **1.31(1.12-1.54)** | **1.35(1.14-1.60)** | **1.38(1.11-1.72)** | 1.04(0.79-1.36) | 1.16(0.85-1.58) | 1.05(0.76-1.45) |
| Dialysis Methods (HD *vs.* PD) | **1.85(1.09-3.14)** | **1.70(1.01-2.91)** | **2.28(1.17-4.45)** | 0.58(0.33-1.03) | **0.49(0.25-0.96)** | 0.70(0.36-1.34) |

PSM, Propensity score match; HR, hazard ratio; 95% CI, 95% confidence interval; PD, Peritoneal dialysis; HD, Hemodialysis.

1. Variables adjusted in multivariate Cox model for both subgroups: sex, age at dialysis initiation, CCI, primary disease of renal failure (glomerulonephritis or polycystic kidney disease), body mass index, plasma albumin, cholesterol, and hemoglobin.
2. The characteristics used in PSM included: sex, age at dialysis initiation, cerebrovascular disease, congestive heart failure, chronic pulmonary disease, cardiovascular diseases, CCI, primary disease of renal failure (glomerulonephritis or polycystic kidney disease), body mass index, plasma albumin, cholesterol, and hemoglobin.

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| Table 2.2 VIF of the multivariate Cox regression model only include CCI | | | | | | |
|  | orginal dataset | | | PSM dataset | | |
|  | <60-years-old | 60to70-years-old | >70-years-old | <60-years-old | 60to70-years-old | >70-years-old |
| Dialysis Methods (HD vs. PD) | 1.044523 | 1.036931 | 1.34022 | 1.012344 | 1.047104 | 1.201044 |
| Sex (female vs male) | 1.105793 | 1.111479 | 1.351801 | 1.153321 | 1.221383 | 1.418426 |
| Charlson comorbidities index (CCI) | 1.394277 | 1.147102 | 1.159747 | 1.484473 | 1.159244 | 1.264555 |
| Body mass index (per 1kg/m2) | 1.109047 | 1.181807 | 1.252468 | 1.090742 | 1.156316 | 1.220134 |
| Cholesterol (per 1mmol/L) | 1.164002 | 1.292191 | 1.146909 | 1.139116 | 1.309658 | 1.192026 |
| Plasma albumin (per 1g/L) | 1.341181 | 1.224375 | 1.212739 | 1.359759 | 1.227199 | 1.057255 |
| Hemoglobin (per 1g/L) | 1.109213 | 1.250009 | 1.137881 | 1.175942 | 1.26264 | 1.059963 |
| dialysis\_begin\_age | 1.203582 | 1.036429 | 1.28859 | 1.225804 | 1.075803 | 1.094626 |

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| Table 3.1 Risk factors for mortality assessed by univariate and multivariate Cox regression model (include comorbidities only) | | | | | | |
|  | Patients younger than 60 years old  PD (n = 352), HD (n = 233) | | | Patients older than 70 years old  PD (n = 48), HD (n = 92) | | |
|  | Univariate  HR (95% CI) | Multivariate1  HR (95% CI) | PSM2-Multivariate1  PD and HD (n = 229)  HR (95% CI) | Univariate  HR (95% CI) | Multivariate1  HR (95% CI) | PSM2-Multivariate1  PD and HD (n = 42)  HR (95% CI) |
| Age at dialysis initiation (per 1 year) | **1.03(1.00-1.06)** | 1.02(0.99-1.05) | 1.01(0.98-1.04) | 1.05(0.98-1.11) | 1.04(0.97-1.12) | 1.06(0.96-1.16) |
| Sex (female vs male) | 0.58(0.33-1.00) | **0.55(0.30-0.98)** | 0.54(0.28-1.03) | 0.83(0.49-1.42) | 0.89(0.49-1.63) | 1.26(0.51-3.07) |
| Diabetes(n) | **1.89(1.12-3.20)** | 1.16(0.64-2.13) | 1.37(0.70-2.68) | 1.00(0.58-1.70) | 1.28(0.68-2.40) | 2.14(0.91-5.00) |
| Hypertension(n) | 1.68(0.67-4.20) | 1.35(0.51-3.55) | 1.96(0.59-6.53) | 1.18(0.16-8.56) | 1.65(0.21-13.25) | 0.91(0.10-8.74) |
| Charlson Comorbidities Index (CCI) | **1.23(1.07-1.41)** | 1.05(0.71-1.55) | 1.08(0.70-1.66) | 1.02(0.82-1.25) | 0.92(0.62-1.35) | 0.81(0.49-1.34) |
| Congestive heart failure(n) | 1.51(0.87-2.61) | 1.07(0.59-1.93) | 1.26(0.67-2.36) | 1.08(0.63-1.85) | 1.00(0.54-1.87) | 1.68(0.71-4.01) |
| Cerebrovascular disease(n) | 1.72(0.78-3.80) | 1.19(0.51-2.75) | 1.32(0.56-3.11) | 1.04(0.60-1.79) | 0.82(0.43-1.54) | 0.57(0.22-1.48) |
| Chronic pulmonary disease(n) | 1.42(0.51-3.93) | 1.05(0.37-2.98) | 0.90(0.27-3.01) | 1.83(0.96-3.48) | 1.64(0.78-3.44) | 1.66(0.59-4.67) |
| Cardiovascular disease(n) | **2.87(1.41-5.86)** | **2.77(1.30-5.93)** | 2.16(0.88-5.28) | 1.29(0.73-2.28) | 1.40(0.68-2.91) | 1.43(0.48-4.26) |
| Body mass index (per 1kg/m2) | 1.04(0.98-1.11) | 1.01(0.94-1.08) | 1.00(0.93-1.08) | 0.95(0.88-1.02) | 0.92(0.83-1.01) | **0.86(0.75-0.99)** |
| Hemoglobin (per 1g/L) | 1.01(0.99-1.02) | 1.00(0.99-1.02) | 1.00(0.99-1.02) | 1.00(0.98-1.01) | 1.00(0.99-1.01) | 1.01(0.98-1.04) |
| Plasma albumin (per 1g/L) | 0.97(0.93-1.02) | 0.99(0.94-1.04) | 0.99(0.94-1.04) | 0.96(0.91-1.02) | 0.96(0.90-1.02) | 0.96(0.88-1.05) |
| Triglyceride (per 1mmol/L) | 1.00(0.97-1.03) | 1.06(0.72-1.56) | 1.02(0.66-1.57) | 0.98(0.95-1.02) | 1.17(0.79-1.72) | 1.39(0.90-2.14) |
| Cholesterol (per 1mmol/L) | **1.31(1.12-1.54)** | **1.37(1.16-1.63)** | **1.34(1.10-1.63)** | 1.04(0.79-1.36) | 1.11(0.80-1.52) | 1.08(0.71-1.63) |
| Dialysis Methods (HD *vs.* PD) | **1.85(1.09-3.14)** | **1.91(1.11-3.31)** | **2.09(1.13-3.87)** | 0.58(0.33-1.03) | **0.49(0.25-0.97)** | 0.52(0.22-1.24) |

PSM, Propensity score match; HR, hazard ratio; 95% CI, 95% confidence interval; PD, Peritoneal dialysis; HD, Hemodialysis.

1. Variables adjusted in multivariate Cox model for both subgroups: sex, age at dialysis initiation, diabetes mellitus, cerebrovascular disease, congestive heart failure, chronic pulmonary disease, cardiovascular diseases, primary disease of renal failure (glomerulonephritis or polycystic kidney disease), body mass index, plasma albumin, cholesterol, and hemoglobin.
2. The characteristics used in PSM included: sex, age at dialysis initiation, diabetes mellitus, cerebrovascular disease, congestive heart failure, chronic pulmonary disease, cardiovascular diseases, primary disease of renal failure (glomerulonephritis or polycystic kidney disease), body mass index, plasma albumin, cholesterol, and hemoglobin.

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| Table 3.2 VIF of the multivariate Cox regression model only include comorbidities | | | | | | |
|  | orginal dataset | | | PSM dataset | | |
|  | <60-years-old | 60to70-years-old | >70-years-old | <60-years-old | 60to70-years-old | >70-years-old |
| Dialysis Methods (HD vs. PD) | 1.103333 | 1.151974 | 1.419708 | 1.079796 | 1.135387 | 1.345169 |
| Sex (female vs male) | 1.156408 | 1.292709 | 1.471439 | 1.219527 | 1.328317 | 1.691753 |
| Diabetes(n) | 1.347334 | 1.456928 | 1.409098 | 1.329112 | 1.488187 | 2.000537 |
| Congestive heart failure(n) | 1.198296 | 1.44678 | 1.339529 | 1.183834 | 1.316483 | 1.331464 |
| Cerebrovascular disease(n) | 1.144124 | 1.106279 | 1.367731 | 1.141711 | 1.105252 | 1.338642 |
| Chronic pulmonary disease(n) | 1.083603 | 1.295698 | 1.266523 | 1.101598 | 1.376029 | 1.314169 |
| Cardiovascular disease(n) | 1.272302 | 1.245806 | 1.607355 | 1.236745 | 1.19457 | 1.890211 |
| Body mass index (per 1kg/m2) | 1.202789 | 1.150079 | 1.364529 | 1.141597 | 1.192498 | 1.170788 |
| Cholesterol (per 1mmol/L) | 1.237738 | 1.579554 | 1.226834 | 1.202475 | 1.426586 | 1.258386 |
| Plasma albumin (per 1g/L) | 1.338243 | 1.3328 | 1.263106 | 1.295043 | 1.290688 | 1.131849 |
| Hemoglobin (per 1g/L) | 1.211042 | 1.266849 | 1.378421 | 1.258316 | 1.313773 | 1.596406 |
| dialysis\_begin\_age | 1.241174 | 1.108648 | 1.331081 | 1.238483 | 1.168953 | 1.132893 |