Supplemental material

**Effect of different single and combined** **antihypertensive drug regimens on the mortality of critical care patients**

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**List of Supplemental Material**

**Table S1** The ICD cords and standards used to screen for hypertension and comorbidities

**Table S2** The list of oral antihypertensive drugs included in present study

**Figure S1** The result of subgroup analyses in PSM and IPTW cohorts. (a,b) show the results of subgroup analysis in the comparing combined and single therapy. (c,d) showed the results of subgroup analyzes regarding the protective effect of ACEIs/ARBs exposure in the single antihypertensive drug exposure cohort, and (e,f) shown that the protective effect of ACEIs/ARBs in the combined therapy cohort. (a,c,e) represent results from the PSM cohorts, while (b,d,f) represent results from the IPTW cohorts**Table S1** The ICD cords and standards used to screen for hypertension and comorbidities

|  |  |
| --- | --- |
| Comorbidities | ICD codes |
| Hypertension (HT) | 4010, 4011, 4019, 40501, 40509, 40511, 40519, 40591, 40599, I10, I15, I150, I151, I152, I158, I159, O16, O161, O162, O163, O169 |
| Diabetes (DM) | 24900, 24901, 24910, 24911, 24920, 24921, 24930, 24931, 24940, 24941, 24950, 24951, 24960, 24961, 24970, 24971, 24980, 24981, 24990, 24991, 25000, 25001, 25002, 25003, 25010, 25011, 25012, 25013, 25020, 25021, 25022, 25023, 25030, 25031, 25032, 25033, 25040, 25041, 25042, 25043, 25050, 25051, 25052, 25053, 25060, 25061, 25062, 25063, 25070, 25071, 25072, 25073, 25080, 25081, 25082, 25083, 25090, 25091, 25092, 25093, E08, E080, E0800, E0801, E081, E0810, E0811, E082, E0821, E0822, E0829, E083, E0831, E08311, E08319, E0832, E08321, E083211, E101, E083212, E083213, E083219, E08329, E083291, E083292, E083293, E083299, E0833, E08331, E083311, E083312, E083313, E083319, E08339, E083391, E083392, E083393, E083399, E0834, E08341, E083411, E083412, E083413, E083419, E08349, E083491, E083492, E083493, E083499, E0835, E08351, E083511, E083512, E083513, E083519, E08352, E083521, E083522, E083523, E083529, E08353, E083531, E083532, E083533, E083539, E08354, E083541, E083542, E083543, E083549, E08355, E083551, E083552, E083553, E083559, E08359, E083591, E083592, E083593, E083599, E0836, E0837, E0837X1, E0837X2, E0837X3, E0837X9, E0839, E084, E0840, E0841, E0842, E0843, E0844, E0849, E085, E0851, E0852, E0859, E086, E0861, E08610, E08618, E0862, E08620, E08621, E08622, E08628, E0863, E08630, E08638, E0864, E08641, E08649, E0865, E0869, E088, E089, E09, E090, E0900, E0901, E091, E0910, E0911, E092, E0921, E0922, E0929, E093, E0931, E09311, E09319, E0932, E09321, E093211, E093212, E093213, E093219, E09329, E093291, E093292, E093293, E093299, E0933, E09331, E093311, E093312, E093313, E093319, E09339, E093391, E093392, E093393, E093399, E0934, E09341, E093411, E093412, E093413, E093419, E09349, E093491, E093492, E093493, E093499, E0935, E09351, E093511, E093512, E093513, E093519, E09352, E093521, E093522, E093523, E093529, E09353, E093531, E093532, E093533, E093539, E09354, E093541, E093542, E093543, E093549, E09355, E093551, E093552, E093553, E093559, E09359, E093591, E093592, E093593, E093599, E0936, E0937, E0937X1, E0937X2, E0937X3, E0937X9, E0939, E094, E0940, E0941, E0942, E0943, E0944, E0949, E095, E0951, E0952, E0959, E096, E0961, E09610, E09618, E0962, E09620, E09621, E09622, E09628, E0963, E09630, E09638, E0964, E09641, E09649, E0965, E0969, E098, E099, E10, E1010, E1011, E102, E1021, E1022, E1029, E103, E1031, E10311, E10319, E1032, E10321, E103211, E103212, E103213, E103219, E10329, E103291, E103292, E103293, E103299, E1033, E10331, E103311, E103312, E103313, E103319, E10339, E103391, E103392, E103393, E103399, E1034, E10341, E103411, E103412, E103413, E103419, E10349, E103491, E103492, E103493, E103499, E1035, E10351, E103511, E103512, E103513, E103519, E10352, E103521, E103522, E103523, E103529, E10353, E103531, E103532, E103533, E103539, E10354, E103541, E103542, E103543, E103549, E10355, E103551, E103552, E103553, E103559, E10359, E103591, E103592, E103593, E103599, E1036, E1037, E1037X1, E1037X2, E1037X3, E1037X9, E1039, E104, E1040, E1041, E1042, E1043, E1044, E1049, E105, E1051, E1052, E1059, E106, E1061, E10610, E10618, E1062, E10620, E10621, E10622, E10628, E1063, E10630, E10638, E1064, E10641, E10649, E1065, E1069, E108, E109, E11, E110, E1100, E1101, E111, E1110, E1111, E112, E1121, E1122, E1129, E113, E1131, E11311, E11319, E1132, E11321, E113211, E113212, E113213, E113219, E11329, E113291, E113292, E113293, E113299, E1133, E11331, E113311, E113312, E113313, E113319, E11339, E113391, E113392, E113393, E113399, E1134, E11341, E113411, E113412, E113413, E113419, E11349, E113491, E113492, E113493, E113499, E1135, E11351, E113511, E113512, E113513, E113519, E11352, E113521, E113522, E113523, E113529, E11353, E113531, E113532, E113533, E113539, E11354, E113541, E113542, E113543, E113549, E11355, E113551, E113552, E113553, E113559, E11359, E113591, E113592, E113593, E113599, E1136, E1137, E1137X1, E1137X2, E1137X3, E1137X9, E1139, E114, E1140, E1141, E1142, E1143, E1144, E1149, E115, E1151, E1152, E1159, E116, E1161, E11610, E11618, E1162, E11620, E11621, E11622, E11628, E1163, E11630, E11638, E1164, E11641, E11649, E1165, E1169, E118, E119, E13, E130, E1300, E1301, E131, E1310, E1311, E132, E1321, E1322, E1329, E133, E1331, E13311, E13319, E1332, E13321, E133211, E133212, E133213, E133219, E13329, E133291, E133292, E133293, E133299, E1333, E13331, E133311, E133312, E133313, E133319, E13339, E133391, E133392, E133393, E133399, E1334, E13341, E133411, E133412, E133413, E133419, E13349, E133491, E133492, E133493, E133499, E1335, E13351, E133511, E133512, E133513, E133519, E13352, E133521, E133522, E133523, E133529, E13353, E133531, E133532, E133533, E133539, E13354, E133541, E133542, E133543, E133549, E13355, E133551, E133552, E133553, E133559, E13359, E133591, E133592, E133593, E133599, E1336, E1337, E1337X1, E1337X2, E1337X3, E1337X9, E1339, E134, E1340, E1341, E1342, E1343, E1344, E1349, E135, E1351, E1352, E1359, E136, E1361, E13610, E13618, E1362, E13620, E13621, E13622, E13628, E1363, E13630, E13638, E1364, E13641, E13649, E1365, E1369, E138, E139 |
| Coronary heart disease (CHD) | 41400, 41401, 41402, 41403, 41404, 41405, 41406, 41407, 4143, 4144, I2101, I2102, I2109, I2111, I2119, I2121, I240, I251, I2510, I2511, I25110, I25111, I25118, I25119, I257, I2570, I25700, I25701, I25708, I25709, I2571, I25710, I25711, I25718, I25719, I2572, I25720, I25721, I25728, I25729, I2573, I25730, I25731, I25738, I25739, I2575, I25750, I25751, I25758, I25759, I2576, I25760, I25761, I25768, I25769, I2579, I25790, I25791, I25798, I25799, I2581, I25810, I25811, I25812, I2582, I2583, I2584, T822, T8221, T82211, T82211A, T82211D, T82211S, T82212, T82212A, T82212D, T82212S, T82213, T82213A, T82213D, T82213S, T82218, T82218A, T82218D, T82218S, T82855, T82855A, T82855D, T82855S, Z951, Z955, Z9861 |
| Acute or chronic heart failure (HF) | 39891, 40201, 40211, 40291, 40401, 40403, 40411, 40413, 40491, 40493, 4280, 4281, 42820, 42821, 42822, 42823, 42830, 42831, 42832, 42833, 42840, 42841, 42842, 42843, 4289, I0981, I110, I130, I132, I50, I502, I5020, I5021, I5022, I5023, I503, I5030, I5031, I5032, I5033, I504, I5040, I5041, I5042, I5043, I508, I5081, I50810, I50811, I50812, I50813, I50814, I5082, I5083, I5084, I5089, I509, I9713, I97130, I97131 |
| Chronic kidney disease (CKD) | 28521, 40300, 40301, 40310, 40311, 40390, 40391, 40400, 40401, 40402, 40403, 40410, 40411, 40412, 40413, 40490, 40491, 40492, 40493, 5851, 5852, 5853, 5854, 5855, 5859, D631, E0822, E0922, E1022, E1122, E1322, I12, I120, I129, I13, I130, I131, I1310, I1311, I132, N18, N181, N182, N183, N184, N185, N189 |
| Liver disease | According to the Charlson comorbidity index materialized view |
| Chronic pulmonary disease | According to the Charlson comorbidity index materialized view |
| Malignant cancer | According to the Charlson comorbidity index materialized view |

**Table S2** The list of oral antihypertensive drugs included in present study

|  |  |
| --- | --- |
|  | Antihypertensive drugs |
| ACEIs | Benazepril, Captopril, Enalapril, Fosinopril, Lisinopril, Moexipril, Monopril, Perindopril, Quinapril, Ramipril, Trandolapril |
| ARBs | Candesartan, Irbesartan, losartan, Olmesartan, Telmisartan, Valsartan |
| β-Blockers | Acebutolol, Atenolol, Betaxolol, Bisoprolol, Labetalol, Metoprolol, Nadolol, Nebivolol, Penbutolol, Pindolol, Propranolol |
| Dihydropyridine CCBs | Amlodipine, Felodipine, Isradipine, Nifedipine, Nimodipine, Nisoldipine,  |
| Non-dihydropyridine CCBs | Diltiazem, Verapamil |
| Thiazide diuretics | Chlorothiazide, Hydrochlorothiazide, Metolazone |



**Figure S1** The result of subgroup analysis in PSM and IPTW cohorts. (a,b) show the results of subgroup analyses in the comparing combined and single therapy. (c,d) show the results of subgroup analyses regarding the protective effect of ACEIs/ARBs exposure in the single antihypertensive drug exposure cohort, and (e,f) show the protective effect of ACEIs/ARBs in the combined therapy cohort. (a,c,e) represent results from the PSM cohorts, while (b,d,f) represent results from the IPTW cohorts