

Pressão arterial é o principal fator de risco para falência renal

**Apresentado por Lilian Pires de Freitas do Carmo
na reunião da Unidade de Hipertensão
do Hospital das Clínicas da Faculdade de Medicina da
Universidade de São Paulo em
17 de Setembro de 2009**



Hypertension

JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart
Association® 
Learn and Live...

Blood Pressure Is a Major Risk Factor for Renal Death **An Analysis of 560 352 Participants From the Asia-Pacific Region**

Conall M. O'Seaghdha, Vlado Perkovic, Tai Hing Lam, Stella McGinn, Federica Barzi, Dong Feng Gu,
Alan Cass, Il Suh, Paul Muntner, Graham G. Giles, Hirotsugu Ueshima, Mark Woodward,
Rachel Huxley; on behalf of the Asia Pacific Cohort Studies Collaboration

(Hypertension. 2009;54:509-515.)



Blood Pressure Is a Major Risk Factor for Renal Death

An Analysis of 560 352 Participants From the Asia-Pacific Region

Conall M. O'Seaghdha, Vlado Perkovic, Tai Hing Lam, Stella McGinn, Federica Barzi, Dong Feng Gu, Alan Cass, Il Suh, Paul Muntner, Graham G. Giles, Hirotsugu Ueshima, Mark Woodward, Rachel Huxley; on behalf of the Asia Pacific Cohort Studies Collaboration

Abstract—Chronic kidney disease is a major worldwide public health problem that causes substantial morbidity and mortality. Studies from the Asia-Pacific region have reported some of the highest chronic kidney disease prevalence rates in the world, but access to dialysis is limited in many countries, making it imperative to identify high-risk individuals. We performed a participant-level data overview of prospective studies conducted in the Asia-Pacific region to quantify the magnitude and direction of the associations between putative risk factors and renal death. Age- and sex-adjusted Cox proportional hazards models were applied to pooled data from 35 studies to calculate hazard ratios (95% CIs) for renal death associated with a standardized change in risk factors. Among 560 352 participants followed for a median of 6.8 years, a total of 420 renal deaths were observed. Continuous and positive associations among systolic blood pressure, diastolic blood pressure, fasting blood glucose, and total cholesterol levels with renal death were observed, as well as a continuous but inverse association with high-density lipoprotein cholesterol. Systolic blood pressure was the strongest risk factor for renal death with each SD increase in systolic blood pressure (19 mm Hg) associated with >80% higher risk (hazard ratio: 1.84; 95% CI: 1.60 to 2.12). Neither cigarette smoking nor excess weight was related to the risk of renal death ($P>0.10$). The results were similar for cohorts in Asia and Australia. These results suggest that primary prevention strategies for renal disease should focus on individuals with elevated blood pressure, diabetes mellitus, and dyslipidemia. (*Hypertension*. 2009;54:509-515.)

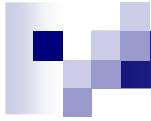
Key Words: risk factors ■ renal mortality ■ hypertension ■ diabetes mellitus ■ impaired fasting glucose

Blood Pressure Is a Major Risk Factor for Renal Death
An Analysis of 560 352 Participants From the Asia-Pacific Region

- Incidência crescente de DRC e DRC terminal => grande problema de saúde pública
- DRC – expectativa de vida reduzida
- DRC terminal em HD => mortalidade de 20 x maior que a população com a mesma idade e sexo com função renal normal

Blood Pressure Is a Major Risk Factor for Renal Death
An Analysis of 560 352 Participants From the Asia-Pacific Region

- Países desenvolvidos na Asia tem uma das mais altas taxas de DRC terminal do mundo.
- Envelhecimento da população e a epidemia mundial do DM
- Controle inadequado da PA, da DLP, peso e tabagismo



Blood Pressure Is a Major Risk Factor for Renal Death **An Analysis of 560 352 Participants From the Asia-Pacific Region**

- **Objetivo: determinar os fatores de risco para morte renal usando dados > 560mil indivíduos da região Ásia-Pacífico em busca de futuros alvos de intervenção**

Blood Pressure Is a Major Risk Factor for Renal Death
An Analysis of 560 352 Participants From the Asia-Pacific Region

- Métodos: Asia Pacific Cohort Studies Collaboration (APCSC) Overview de estudos prospectivos observacionais
- Outcomes: Morte renal (IRA, DM com nefropatia, GNC...)



Blood Pressure Is a Major Risk Factor for Renal Death

An Analysis of 560 352 Participants From the Asia-Pacific Region

Table 2. Classification of Renal Deaths in APCSC Using ICD-9 and ICD-10

Cause of Death	ICD Codes	Events
Renal failure, chronic renal failure not otherwise specified	585.x, 586.x, N189, N19[1]	252
Glomerular disease, including diabetic nephropathy	250.4, 446.4, 580.x, 581.1, 581.9, 582.0, 582.8, 582.9, 583.x, 587.x, E1x0.2	69
Acute renal failure, not otherwise specified	584.x, N179	40
Hypertensive renal disease, renovascular disease	403.x, 440.1, I12, I13, I15.x	27
ESKD, small kidneys	589, N180, N279	11
Tubulointerstitial disease	N12, N259	5
Unspecified disorders of kidney or ureter	593.9, N00 to N29	1
Not otherwise specified		15
Total renal deaths		420

Blood Pressure Is a Major Risk Factor for Renal Death
An Analysis of 560 352 Participants From the Asia-Pacific Region

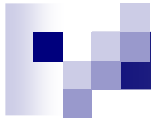
- Resultados: 35 estudos Asia Pacific Cohort Studies Collaboration (APCSC), 506.352 pacientes;
- Pacientes da Asia => mais jovens, mais mulheres, níveis basais de PA, IMC e colesterol total mais baixos



Blood Pressure Is a Major Risk Factor for Renal Death

An Analysis of 560 352 Participants From the Asia-Pacific Region

- Resultados: 35 estudos APCSC, 506352 pacientes;
- Pacientes da Asia => mais jovens, mais mulheres, níveis basais de PA, IMC e colesterol total mais baixos



Relationship Between Blood Pressure and the Risk of Renal Death

- Positivamente e “log-linearly”
- 1 DP padrão está associado com 84% de aumento na mortalidade

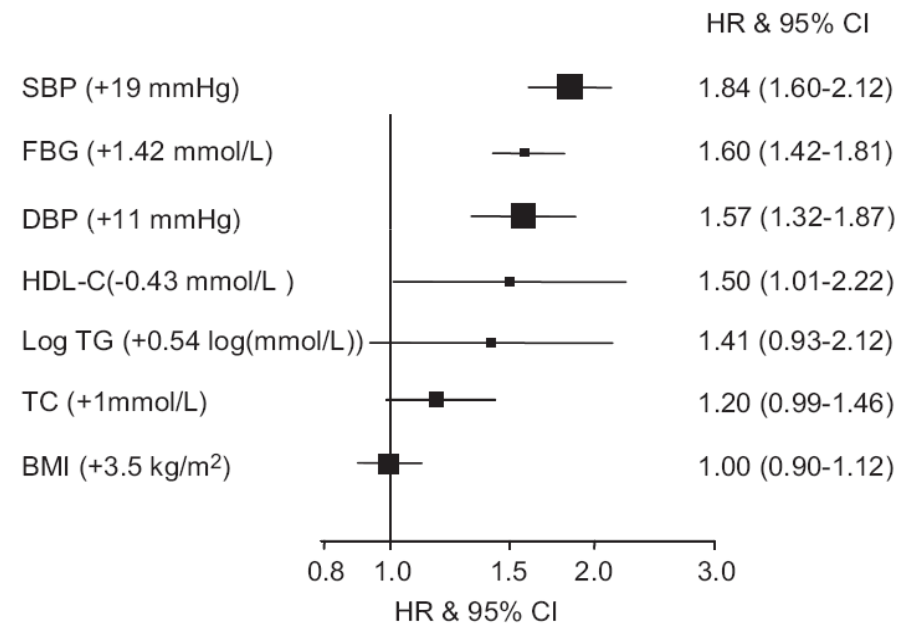


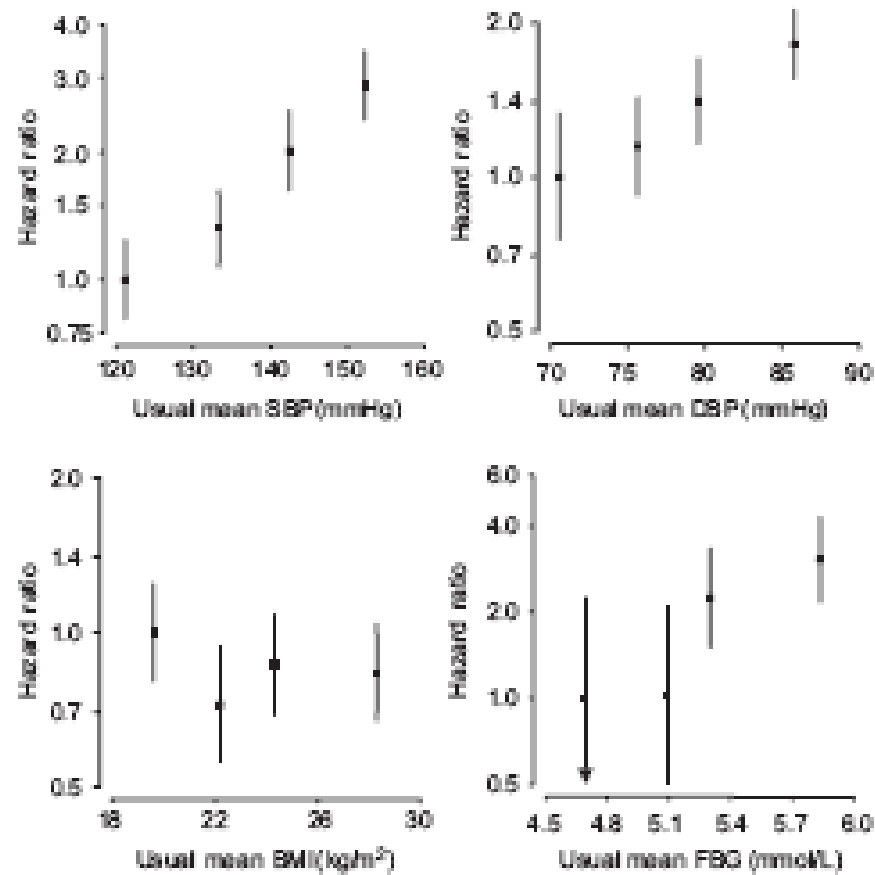
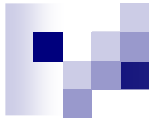
Figure 2. HRs, with 95% CIs, for a 1-SD increment in SBP, FBG, TC, TG, and BMI or a 1 standard decrement in HDL-c and renal death.

FBG, Diabetes Mellitus and the Risk of Renal Death

- Contínua ($p=0,001$) e positiva associação com morte renal e glicemia de jejum
- Um aumento de 1DP estava associado com 60% no aumento do risco de mortalidade renal.
- Pacientes com DM tinha um risco d morte renal 3x maior em relação aos pacientes sem DM

Cigarette Smoking, BMI, and Risk of Renal Death

- Sem evidência clara de uma associação de tabagismo e morte renal
- Sem evidência entre IMC e risco de morte renal





Lipids and the Risk of Renal Death

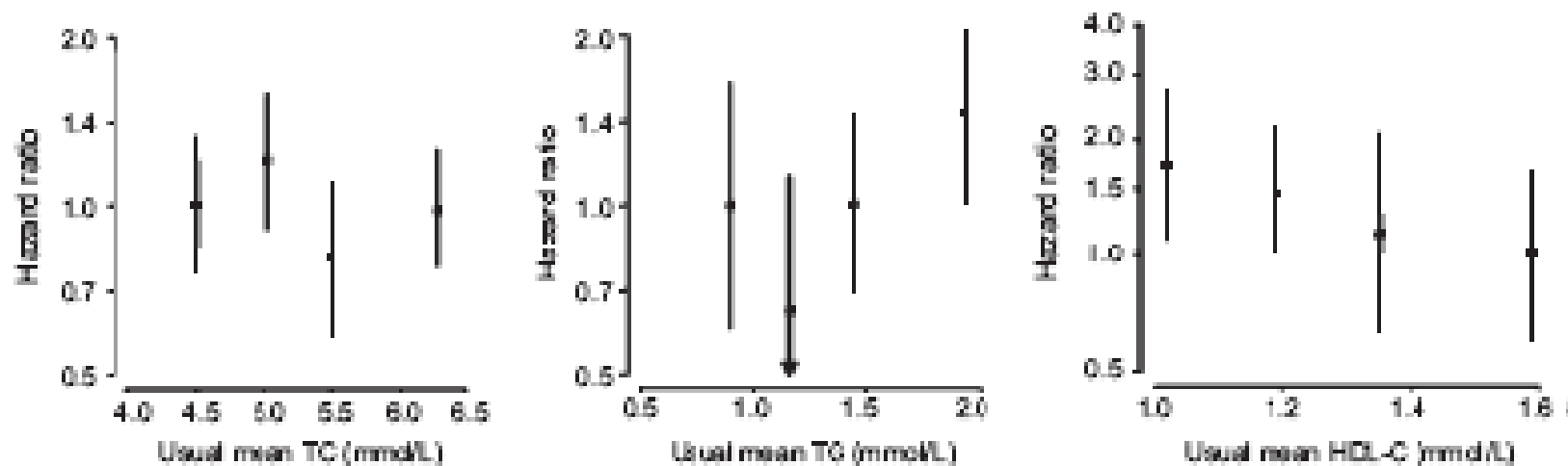


Figure 3. HRs, with 95% CIs, for renal death for lipids, including usual levels of TC (millimoles per liter mmol/L), TG (millimoles per liter), and HDL-C (millimoles per liter) by fourths (base: lowest fourth; for HDL-C, base: highest fourth)

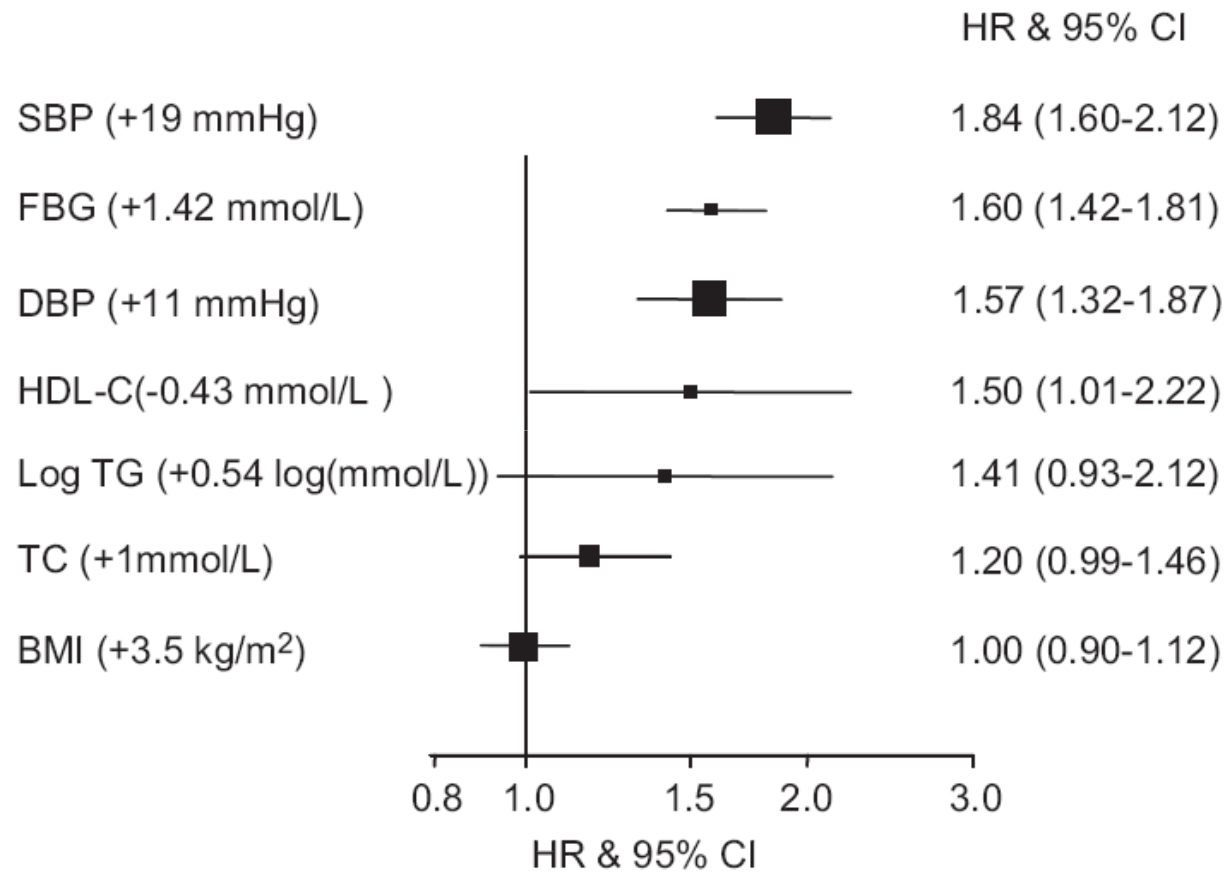
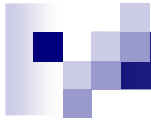


Figure 2. HRs, with 95% CIs, for a 1-SD increment in SBP, FBG, TC, TG, and BMI or a 1 standard decrement in HDL-c and renal death.

Blood Pressure Is a Major Risk Factor for Renal Death An Analysis of 560 352 Participants From the Asia-Pacific Region

■ Discussão

- Baseado em dados prospectivos de > 560.000 indivíduos da região Asiática -Pacífico =>boa evidência e associação direta e contínua entre PA e glicemia com risco de morte renal

Blood Pressure Is a Major Risk Factor for Renal Death An Analysis of 560 352 Participants From the Asia-Pacific Region

■ Discussão

- Forte correlação entre HAS e risco de DRC terminal
- Controle pressórico e controle glicêmico reduzem progressão da DRC e incidência de DRC terminal
- IMC = resultados conflitantes, longa duração da exposição pode ser necessária

Blood Pressure Is a Major Risk Factor for Renal Death

An Analysis of 560 352 Participants From the Asia-Pacific Region

■ Discussão

- Dislipidemia (CT alto ou HDL baixo ou LDL alto) => fatores de risco para a progressão de doença renal
- A terapia com estatinas pode diminuir a progressão da DRC
- The Study of Heart and Renal Protection => trial randomizado com > 9000 pacientes; sinva + ezetimibe X placebo

Blood Pressure Is a Major Risk Factor for Renal Death An Analysis of 560 352 Participants From the Asia-Pacific Region

■ Discussão

- Em resumo: HAS, intolerância a glicose e dislipidemia => associação com progressão de DRC, são igualmente importante na Ásia como nos países Ocidentais

Blood Pressure Is a Major Risk Factor for Renal Death
An Analysis of 560 352 Participants From the Asia-Pacific Region

- **Perspectivas: campanhas para diagnóstico e controle da HAS e da glicemia.**
- **Programas de saúde pública e programas que envolvem a comunidade devem ser considerados.**