

Clinical trials of anti hypertensive agents for hypertension in nephropathy

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1 angiotensin receptor blocker

Trial	Treatments	Patients	Trials design and methods
ARBs vs control			
Suzuki , 2008 n=183/183 follow-up:	ARBs (valsartan, candesartan, and losartan) versus no ARBs	patients with diabetes and chronic kidney disease on dialysis	Parallel groups open
candesartan vs control			
Takahashi , 2006 n=43/37 follow-up: 19.4 months	candesartan versus control	patients on chronic haemodialysis in stable condition and with no clinical evidence of cardiac disorders	Parallel groups open
candesartan vs conventional treatment			
E-COST-R , 2005 n=69/72 follow-up:	candesartan versus conventional treatment	hypertensive subjects 60 to 75 years old with non-diabetic chronic renal insufficiency	Parallel groups open
irbesartan vs placebo			
IDNT (irbesartan vs pbo) , 2001 n=579/569 follow-up: 2.6 y	Irbesartan 300mg/d (target 135/85) versus placebo	hypertensive patients with nephropathy due to type 2 diabetes	Parallel groups double-blind worldwide
irbesartan vs amlodipine			
IDNT (irbesartan vs amlodipine) , 2001 n=579/567 follow-up: 26y	Irbesartan 300mg/d (with a target of 135/85) versus amlodipine 10mg/d (with a target of 135/85)	hypertensive patients with nephropathy due to type 2 diabetes	Parallel groups double-blind worldwide
telmisartan vs enalapril			
DETAIL , 2004 n=120/130 follow-up: 5 year	telmisartan 80 mg daily versus enalapril 20 mg daily	subjects with type 2 diabetes and early nephropathy	Parallel groups double-blind

References

Suzuki, 2008:

Suzuki H, Kanno Y, Sugahara S, Ikeda N, Shoda J, Takenaka T, Inoue T, Araki R Effect of angiotensin receptor blockers on cardiovascular events in patients undergoing hemodialysis: an open-label randomized controlled trial. Am J Kidney Dis 2008;52:501-6 [18653268] [10.1053/j.ajkd.2008.04.031](https://doi.org/10.1053/j.ajkd.2008.04.031)

Takahashi, 2006:

Takahashi A, Takase H, Toriyama T, Sugiura T, Kurita Y, Ueda R, Dohi Y Candesartan, an angiotensin II type-1 receptor blocker, reduces cardiovascular events in patients on chronic haemodialysis—a randomized study. Nephrol Dial Transplant 2006;21:2507-12 [16766543] [10.1093/ndt/gfl293](https://doi.org/10.1093/ndt/gfl293)

E-COST-R, 2005:

Nakamura T, Kanno Y, Takenaka T, Suzuki H An angiotensin receptor blocker reduces the risk of congestive heart failure in elderly hypertensive patients with renal insufficiency. *Hypertens Res* 2005;28:415-23 [[16156505](#)] [10.1291/hyPRES.28.415](#)

IDNT (irbesartan vs pbo), 2001:

Lewis EJ, Hunsicker LG, Clarke WR, Berl T, Pohl MA, Lewis JB, Ritz E, Atkins RC, Rohde R, Raz I Renoprotective effect of the angiotensin-receptor antagonist irbesartan in patients with nephropathy due to type 2 diabetes. *N Engl J Med* 2001;345:851-60 [[11565517](#)]

Lewis EJ, Hunsicker LG, Clarke WR, Berl T, Pohl MA, Lewis JB, Ritz E, Atkins RC, Rohde R, Raz I Renoprotective effect of the angiotensin-receptor antagonist irbesartan in patients with nephropathy due to type 2 diabetes. *N Engl J Med* 2001;345:851-60 [[11565517](#)]

IDNT (irbesartan vs amlodipine), 2001:

Lewis EJ, Hunsicker LG, Clarke WR, Berl T, Pohl MA, Lewis JB, Ritz E, Atkins RC, Rohde R, Raz I Renoprotective effect of the angiotensin-receptor antagonist irbesartan in patients with nephropathy due to type 2 diabetes. *N Engl J Med* 2001;345:851-60 [[11565517](#)]

DETAIL, 2004:

Barnett AH, Bain SC, Bouter P, Karlberg B, Madsbad S, Jervell J, Mustonen J Angiotensin-receptor blockade versus converting-enzyme inhibition in type 2 diabetes and nephropathy. *N Engl J Med* 2004;351:1952-61 [[15516696](#)] [10.1056/NEJMoa042274](#)

2 angiotensin-converting enzyme inhibitors

Trial	Treatments	Patients	Trials design and methods
ramipril vs amlodipine			
AASK (ramipril vs amlodipine) , 2002 n=436/217 follow-up: 30 y	ramipril 2.5-10 mg/d versus amlodipine 5-10 mg/d	African Americans aged 18 to 70 years with hypertensive renal disease (GFR, 20-65 mL/min per 1.73 m(2))	Parallel groups Double blind US
ramipril vs metoprolol			
AASK (ramipril vs metoprolol) , 2002 n=436/441 follow-up: 41 y	ramipril 2.5-10 mg/d versus metoprolol 50-200 mg/d	African Americans aged 18 to 70 years with hypertensive renal disease (GFR, 20-65 mL/min per 1.73 m(2))	Parallel groups Double blind US

References

AASK (ramipril vs amlodipine), 2002:

Wright JT Jr, Bakris G, Greene T, Agodoa LY, Appel LJ, Charleston J, Cheek D, Douglas-Baltimore JG, Gassman J, Glassock R, Hebert L, Jamerson K, Lewis J, Phillips RA, Toto RD, Middleton JP, Rostand SG Effect of blood pressure lowering and antihypertensive drug class on progression of hypertensive kidney disease: results from the AASK trial. *JAMA* 2002;288:2421-31 [[12435255](#)]

AASK (ramipril vs metoprolol), 2002:

Wright JT Jr, Bakris G, Greene T, Agodoa LY, Appel LJ, Charleston J, Cheek D, Douglas-Baltimore JG, Gassman J, Glassock R, Hebert L, Jamerson K, Lewis J, Phillips RA, Toto RD, Middleton JP, Rostand SG Effect of blood pressure lowering and antihypertensive drug class on progression of hypertensive kidney disease: results from the AASK trial. *JAMA* 2002;288:2421-31 [[12435255](#)]

Norris K, Bourgoigne J, Gassman J, Hebert L, Middleton J, Phillips RA, Randall O, Rostand S, Sherer S, Toto RD, Wright JT Jr, Wang X, Greene T, Appel LJ, Lewis J Cardiovascular outcomes in the African American Study of Kidney Disease and Hypertension (AASK) Trial. *Am J Kidney Dis* 2006;48:739-51 [[17059993](#)] [10.1053/j.ajkd.2006.08.004](#)

3 calcium-channel blockers

Trial	Treatments	Patients	Trials design and methods
amlodipine vs placebo			
IDNT (amlodipine vs pbo) , 2001 n=567/569 follow-up: 26	Amlodipine 10mg/d versus placebo	hypertensive patients with nephropathy due to type 2 diabetes	Parallel groups Double blind
amlodipine vs metoprolol			
AASK (amlodipine vs metoprolol) , 2002 n=217/441 follow-up: 30y	Amlodipine 5-10 mg/d versus metoprolol 50-200 mg/d	African Americans aged 18 to 70 years with hypertensive renal disease (GFR, 20-65 mL/min per 1.73m ²)	US
amlodipine vs ramipril			
AASK (amlodipine vs ramipril) , 2002 n=217/436 follow-up: 30	Amlodipine 5-10 mg/d versus ramipril 2.5-10 mg/d	African Americans aged 18 to 70 years with hypertensive renal disease (GFR, 20-65 mL/min per 1.73m ²)	Factorial plan Double blind US

References

IDNT (amlodipine vs pbo), 2001:

Lewis EJ, Hunsicker LG, Clarke WR, Berl T, Pohl MA, Lewis JB, Ritz E, Atkins RC, Rohde R, Raz I Renoprotective effect of the angiotensin-receptor antagonist irbesartan in patients with nephropathy due to type 2 diabetes. N Engl J Med 2001;345:851-60 [[11565517](#)]

AASK (amlodipine vs metoprolol), 2002:

Wright JT Jr, Bakris G, Greene T, Agodoa LY, Appel LJ, Charleston J, Cheek D, Douglas-Baltimore JG, Gassman J, Glassock R, Hebert L, Jamerson K, Lewis J, Phillips RA, Toto RD, Middleton JP, Rostand SG Effect of blood pressure lowering and antihypertensive drug class on progression of hypertensive kidney disease: results from the AASK trial. JAMA 2002;288:2421-31 [[12435255](#)]

AASK (amlodipine vs ramipril), 2002:

Wright JT Jr, Bakris G, Greene T, Agodoa LY, Appel LJ, Charleston J, Cheek D, Douglas-Baltimore JG, Gassman J, Glassock R, Hebert L, Jamerson K, Lewis J, Phillips RA, Toto RD, Middleton JP, Rostand SG Effect of blood pressure lowering and antihypertensive drug class on progression of hypertensive kidney disease: results from the AASK trial. JAMA 2002;288:2421-31 [[12435255](#)]

4 direct renin inhibitor

Trial	Treatments	Patients	Trials design and methods
aliskiren vs placebo			
AVOID , 2008 [NCT00097955] n=301/298 follow-up: 6 months	aliskiren (150 mg daily for 3 months, followed by an increase in dosage to 300 mg daily for another 3 months versus placebo	patients with hypertension and type 2 diabetes with nephropathy	Parallel groups double blind 15 countries

References

AVOID, 2008:

Parving HH, Persson F, Lewis JB, Lewis EJ, Hollenberg NK Aliskiren combined with losartan in type 2 diabetes and nephropathy. N Engl J Med 2008;358:2433-46 [[18525041](#)]

5 About TrialResults-center.org

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The TrialResults-center database provides a unique view of the treatment efficacy based on all data provided directly from clinical trial results, offering a valuable alternative to personal bibliographic search, published meta-analysis, etc. Furthermore, it would allow comparing easily the various concurrent therapeutic for the same clinical condition.

Rigorous meta-analysis method is used to populate TrialResults-center: widespread search of published and non published trials, study selection using pre-specified criteria, data extraction using standard form.

TrialResults-center is continually updated on a weekly basis. We continually search all new results (whatever their publication channel) and these news results are immediately added to the database with a maximum of 1 week.

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